

THE ARCHITECTURAL RECORD

CONTENTS

	PAGE
SARAGOSSA—Illustrated	327
KATHARINE C. BUDD	
THE GRISWOLD—A Study in Summer Hotel Building—Illus	345
THE ROYAL INSURANCE BUILDING—Illustrated	362
OPENING THE CENTER OF DENVER—Illustrated	365
C. M. R.	
FACTORIES AND WAREHOUSES—Illustrated	369
RUSSELL STURGIS	
A CONVERSATION WITH HENRY JANEWAY HARDENBERGH	377
SADAKICHI HARTMANN	
THE PYNCHON HOUSE—Illustrated	381
H. W. FROHNE	
THE MORGAN LIBRARY AND ART MUSEUM—Illustrations	389
NOTES AND COMMENTS—Illustrated	395
The California Bungalow—A Concrete Building —The Potter Collection of Bronzes—Los Angeles Electroliers—The Newest Thing in Skyscrapers —Exhibition by the Washington Architectural Club.	
TECHNICAL DEPARTMENT—	
Paint Progress	401

C. W. SWEET, Publisher R. W. REINHOLD, Business Mgr.
H. W. DE MOND, Editor H. D. CROLY, Associate Editor

Subscription (Yearly), \$3.00

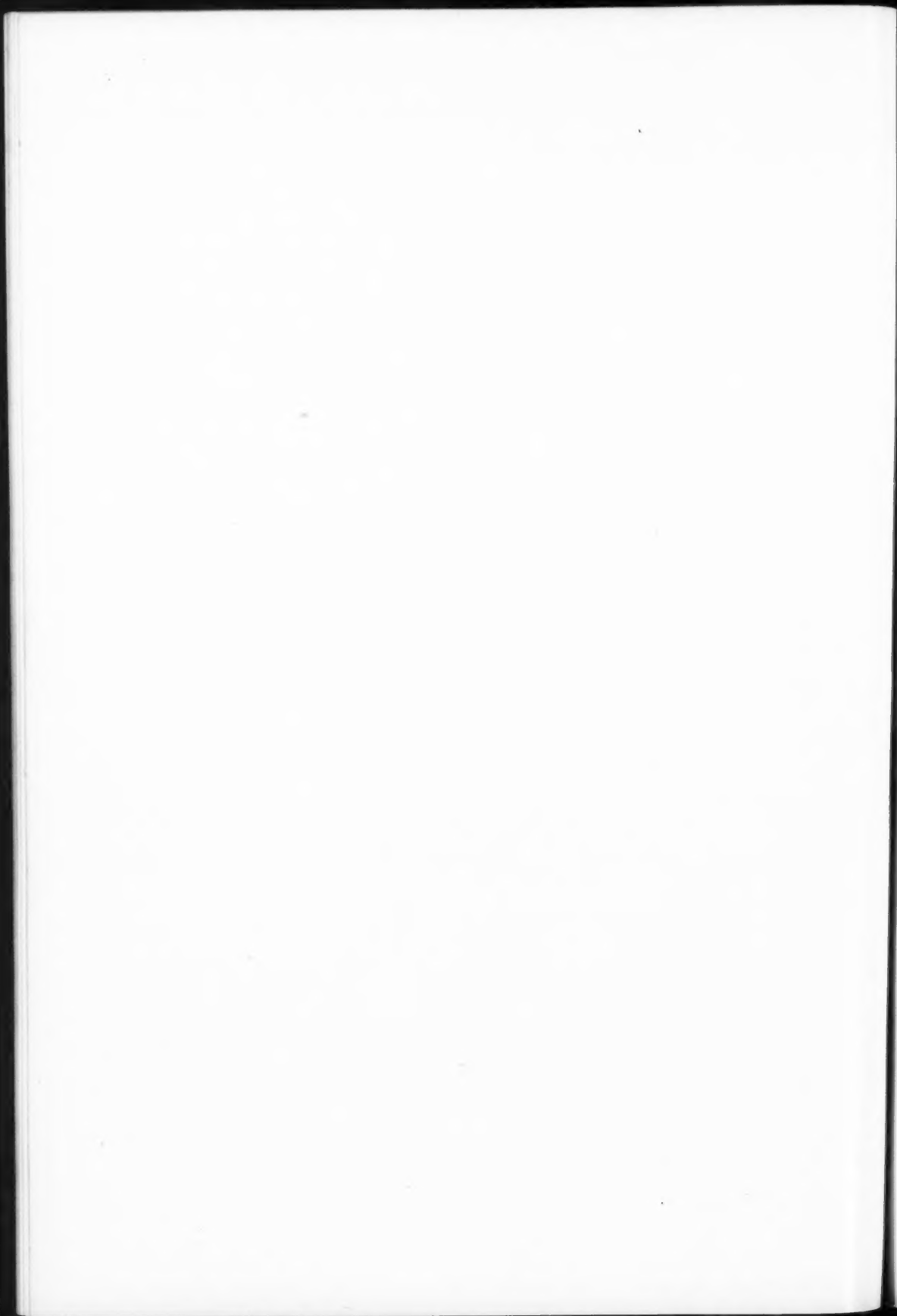
Published Monthly

TWENTY
FIVE
CENTS

THE
ARCHITECTURAL RECORD CO.
NEW YORK

TWENTY
FIVE
CENTS

OFFICE OF PUBLICATION: Nos. 14 and 16 VESEY STREET, NEW YORK CITY.
WESTERN OFFICE: 511 MONADNOCK BLDG., CHICAGO, ILL.



CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.



COPYRIGHT, 1906, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

PANEL FROM AN ENGLISH STAINED GLASS WINDOW.

TWENTY-EIGHT WEST THIRTIETH STREET.

CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.



COPYRIGHT, 1906, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

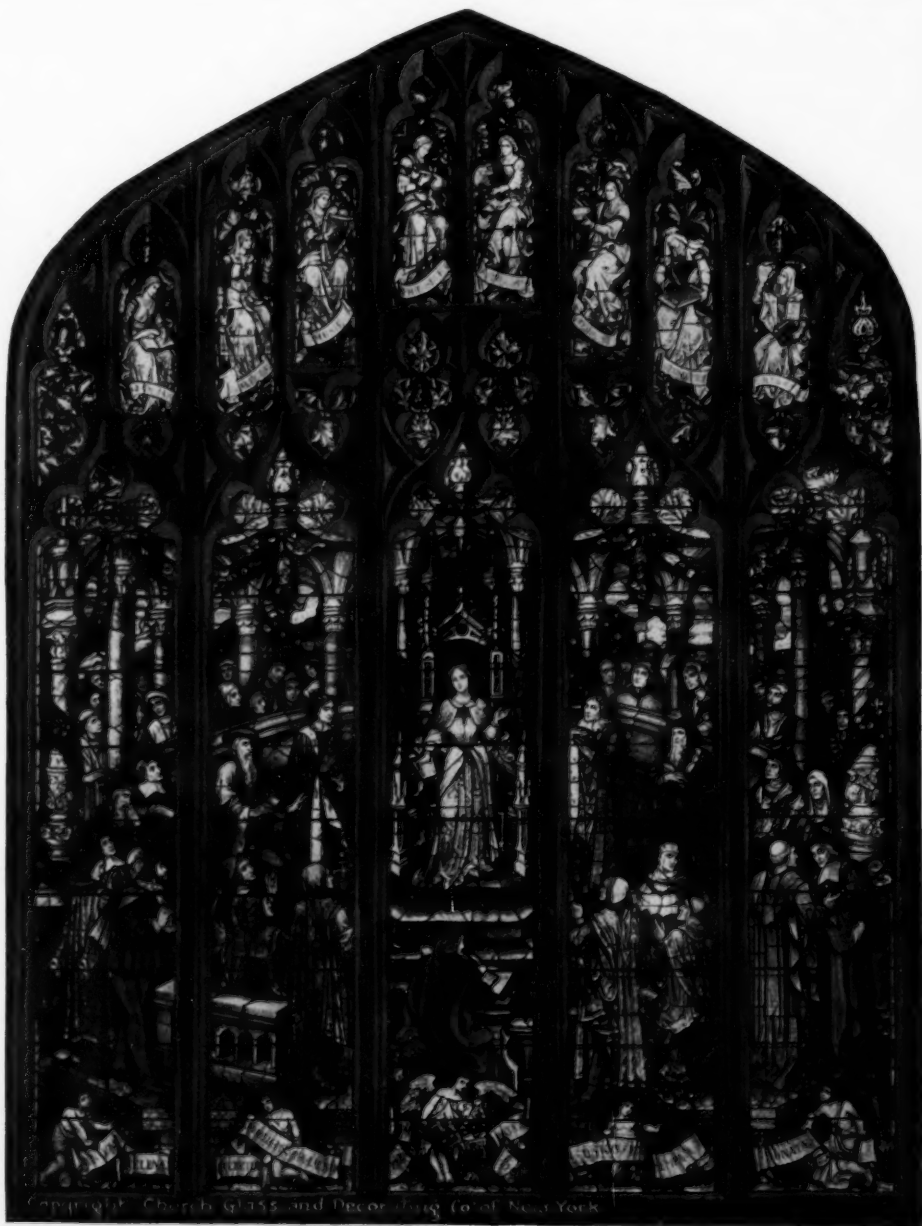
ENGLISH STAINED GLASS WINDOW

"VICTORY "

PLACED IN TRINITY CHURCH, BOSTON.

TWENTY~EIGHT WEST THIRTIETH STREET.

CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.

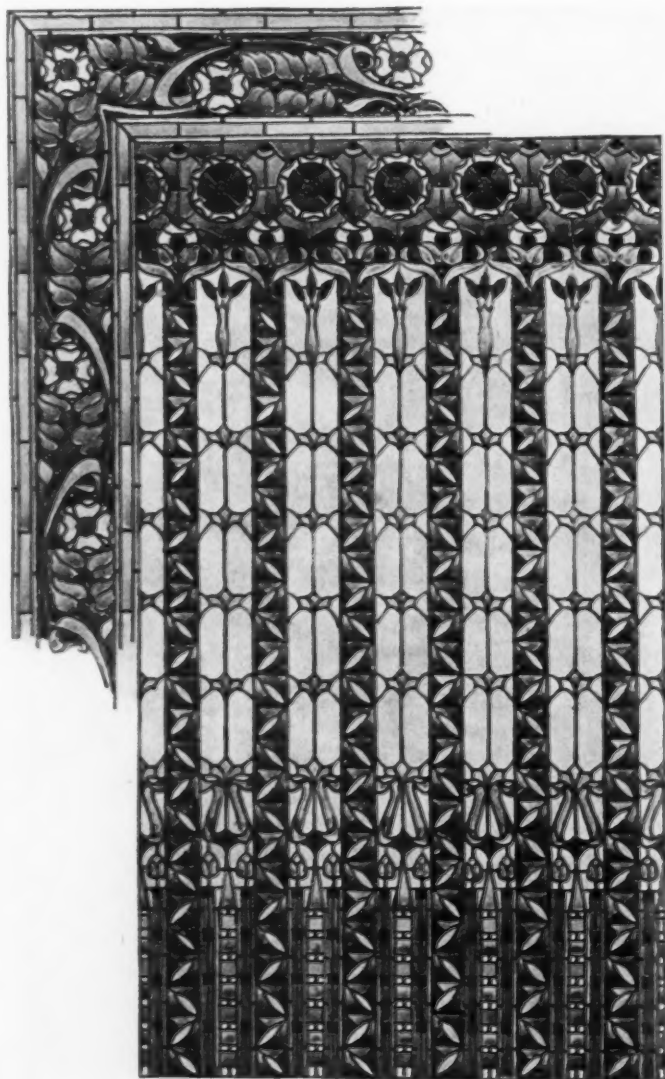


COPYRIGHT, 1906, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

ENGLISH STAINED GLASS WINDOW.
THE GREAT WINDOW IN THE MEMORIAL LIBRARY BUILDING, VASSAR COLLEGE.

TWENTY~EIGHT WEST THIRTIETH STREET.

CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.

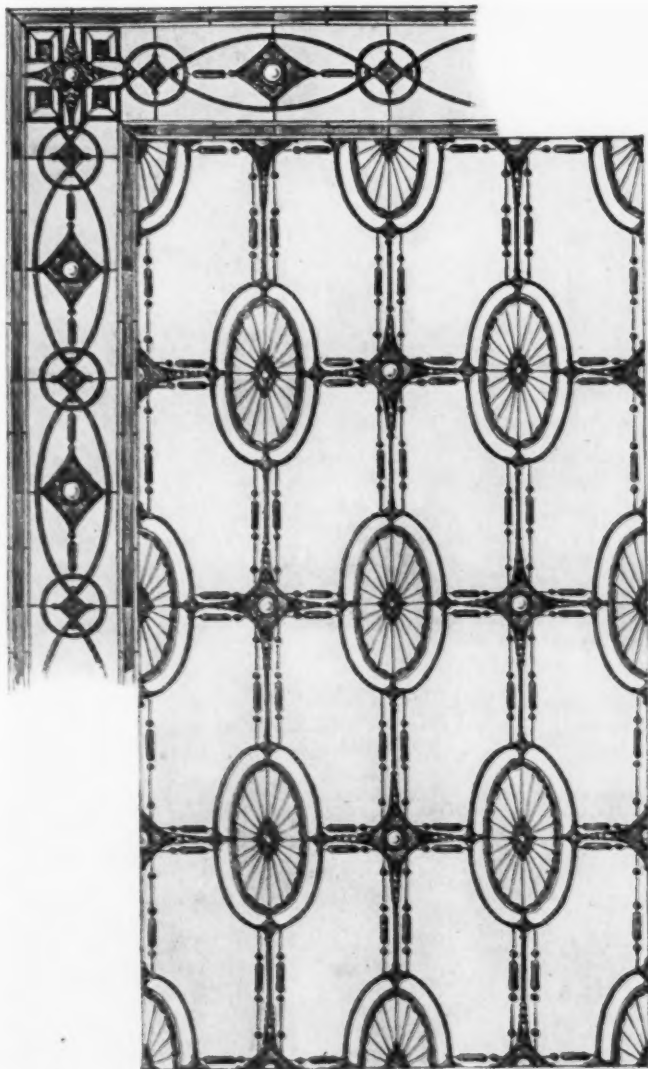


COPYRIGHT, 1905, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

SUGGESTION FOR AN
ORNAMENTAL DOMESTIC WINDOW.

TWENTY-EIGHT WEST THIRTIETH STREET.

CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.



COPYRIGHT, 1906, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

ORNAMENTAL GLASS MOTIVE
FOR A COLONIAL CEILING LIGHT.

TWENTY~EIGHT WEST THIRTIETH STREET.

CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.



COPYRIGHT, 1906, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

ENTRANCE DOORS TO A PRIVATE CHAPEL
DESIGNED AND FURNISHED BY THE
CHURCH GLASS AND DECORATING CO. OF NEW YORK.

TWENTY-EIGHT WEST THIRTIETH STREET.

CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.



COPYRIGHT, 1908, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

AMERICAN MOSAIC WINDOW.
THE CRERAR MEMORIAL
"THE ASCENSION."
SECOND PRESBYTERIAN CHURCH, CHICAGO.

TWENTY-EIGHT WEST THIRTIETH STREET.

CHVRCH GLASS AND DECORATING COMPANY
OF NEW YORK.



COPYRIGHT, 1906, BY CHURCH GLASS AND DECORATING CO. OF NEW YORK

"THE ADORATION OF THE MAGI"
FROM THE STUDIOS OF THE
CHURCH GLASS AND DECORATING CO.
OF NEW YORK.

TWENTY-EIGHT WEST THIRTIETH STREET.

The Architectural Record

Vol. XIX.

MAY, 1906.

No. 5.

✓ Saragossa

When for the first time, Saragossa is seen, from the Torrero (the fortified hill behind the city), with the setting sun glowing on her many towers and domes, on the wide Ebro, swiftly flowing under the old bridge, on the great plain of Aragon stretching far away to the snow-clad peaks of the Pyrenées, one is ready to believe that under this picturesque skyline will be found a mine of artistic interest. A painter could spend years here, enjoying the rich coloring of the massive old buildings and of the bustling crowds, but an architect soon turns away, disenchanted by a certain coarseness of detail that is revealed on closer inspection. Other Spanish cities, Toledo, Cordova, etc., outwardly lacking in interest, yet possess buildings whose interiors are architecturally rich beyond description. But Saragossa, too, has some characteristic features that well repay study. She boasts proudly of her two great cathedrals, a distinction she shares with Cadiz. (Strange to say, Madrid, the capital, has not even one!) These, however, although decidedly picturesque, do not in design equal some of her smaller buildings.

Saragossa is noticeable among Spanish cities, as Genoa is among Italian ones, for the number of her stately old houses. These buildings, after centuries of neglect, still have power to charm. The detail is generally poor, but the composition of the façades, the general arrangement of voids and solids, is excellent, the very paucity of architectural finish in the lower stories emphasizing the boldness of the arcades and of the overhanging cornices that

finish the massive stone walls. This is where one is reminded of the Genoese palaces, which are equally frank and direct in design; with openings where they are needed, proportioned with due regard for each other and to the uses for which they are intended; with a fine cornice in the right place, not below an attic but crowning the wall. We take pleasure in their grouping on the narrow, irregular streets, overlooking unpleasant details in our enjoyment of the harmonious proportions of the whole succession of buildings. In Genoa the walls are concealed by stucco, which is painted or frescoed in gay colors. The rough brickwork found in Saragossa adds interest and dignity to the design. The city was built of brick, as stone was difficult to procure in the neighborhood, the most noteworthy brickwork being laid by Moorish masons.

The picturesque mass of domes, towers and tiled roofs covering the city lies along one side of the Ebro, backed by green hills, dotted with many torres (country houses). The basin of the Ebro is here a fruitful huerta, contrasting sharply with the dry waste extending outside for many miles. In the sixteenth century, when Spain was still glorious, Charles V. commenced a great ship canal, seventy-five feet wide, hoping to connect the Mediterranean with the Atlantic. Sixty miles only were finished, and this, since the days of railroads, has been used only for irrigation. The Canal Imperial, flowing one hundred and twenty feet higher than Saragossa, supplies her gardens and olive groves

Copyright, 1906, by "THE ARCHITECTURAL RECORD COMPANY." All rights reserved.

Entered May 22, 1902, as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879.



PALACE OF THE LUNA FAMILY—SARAGOSSA.

freely with water, and forms the center of a beautiful promenade before, in a series of waterfalls, it reaches the level of the river.

Spain in general is not the sunny, fruitful land we picture. Narrow-minded Spanish farmers, imagining that birds injurious to their crops found shelter in foliage, have destroyed all trees; many peasants have never seen a tree. The climate has, from this cause, gradually changed, the natural moisture drying up; much of the country is now a desert, burning hot in summer, icy in winter.

The four railroads converging in Saragossa are probably responsible for the present prosperity of the city. Thirty-five years ago a traveler wrote, "Saragossa struck me as being poorer and prouder than any city I visited in Spain." In 1905 she is alive commercially, rivaling Barcelona in the number of improvements that are being made.

Noticing the commonplaceness of these modern "improvements," the inquisitive tourist wonders "where the Spanish grandees live." In every small town of France and Italy, one finds palatial châteaux and villas, occupied by the aristocracy; but among the modern buildings in Spain there are no residences worthy of note. The country outside of the cities seems to be absolutely destitute of fine secular buildings; at long intervals one comes on a low, rambling farmhouse, or a few humble cottages grouped around a chapel. Neglect of state-ly old houses is every-

where apparent; the best in Saragossa have already disappeared, and others are fast crumbling away, showing walls bulging into the street, richly decorated courtyards blocked with stable refuse, carvings almost obliterated by repeated coats of whitewash, floors overloaded with stores of grain, and vaulted vestibules filled by tradespeople or shopkeepers. Even in the coldest weather, blacksmiths and woodworkers are to be seen in these great archways working without other artificial heat than a handful of hot charcoal on a "brassiero," or a few shavings burning on a sheet of iron. The shops, no matter what else



TORRE NUEVA (NEW TOWER)—SARAGOSSA.

they contain, invariably show gorgeous piles of fruit, nuts, and long strings of white onions and red peppers.

Digby-Wyatt shows, in a sketch dated 1870, a lovely renaissance courtyard, disfigured with the litter of a livery stable, remarking: "It is as well that as many as possible of our rising generation of art students should see the Casa Zaporta, for it is not likely that any of it will be left to their children." This prophecy came true last year, when the entire building was transported to Paris, to be re-erected there as a studio. Still another loss is that of the wonderful leaning tower, the Torre Nueva, recently destroyed.

Spanish people blame the French for wanton destruction in 1808, when the vast palace of the archbishop was gutted and sacked, the Aljaferia ruined, and the splendid plateresque church and curious half-Moorish cloisters of Santa Engracia razed. The richly decorated portal alone was saved. From this fragment, with its border of thirty-three angels' heads, we can judge of the rather overloaded magnificence of the rest. Commenced by the Catholic monarchs, Ferdinand and Isabella, it bears the best

existing likenesses of these rulers, kneeling effigies of life size.

Strange to say, the wooden cornices of the old houses, though protected only by the great tiles of the roof above from the storms and sunshine of four or five hundred years, have apparently suffered less than the rest of the buildings.

Saragossa from earliest times has been a free city, possessing her own charters and mint. The original Roman city, used for ages as a quarry by both Moors and Christians, still crops out in the walls of the Convento del Sepulcro, and a few Iberian vessels are to be seen at the museum, although the Spaniard who in digging finds such remains generally tosses them back into the excavation as "useless old stones."

The Emperor Augustus called the city "Colonia Caesar-Augusta," since corrupted by the Spaniards into the musical "Zaragoza" (the z is lisped in Castilian). The first Christian poet was born in this city, which is still one of the most devoutly religious in the world.

Some traces are left of Moorish rule, noticeably the general plan of the city, with its lane-like streets, and the fine brick and tile work still to be seen in the few remaining walls and towers.

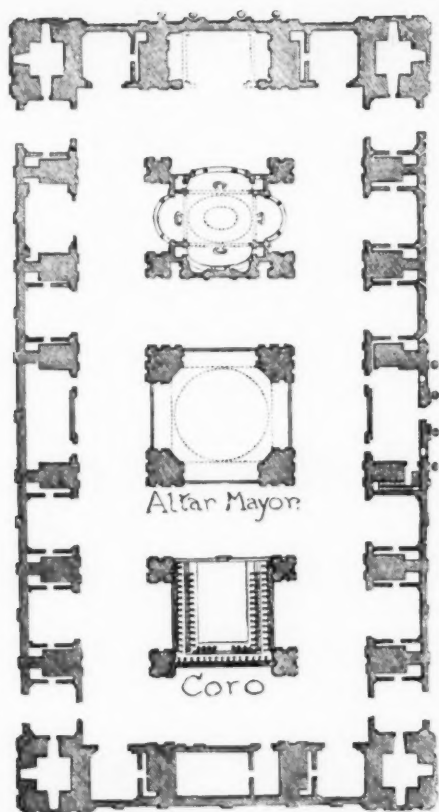
Zaragoza's day of splendor was over when Ferdinand, marrying Isabella, was obliged to move his capital from Aragon to the more convenient Castile.

The most romantic period of her history occurred in 1808, when defended only by a few brave peasants, she successfully withstood for many months the attack of an overwhelming French army. One can understand, after seeing these fortress-like old houses, how the siege was finally reduced to a bloody house-to-house warfare; as Tio Jorje proudly expressed it in his refusal to surrender: "guerra al cuchillo" (war to the knife). The French were merciless, burning alive the sick in the hospitals and ruthlessly destroying priceless treasures of art. Every Spaniard since concedes Saragossa's right to bear the inspiring title "Siempre Heroica."

The Puente de Piedra, built before America was discovered (it is strange



TOWER OF THE FORTEA HOUSE IN SARA-GOSSA, WITH CHARACTERISTIC ARCADES AND ROUGH BUT EFFECTIVE BRICKWORK.



PLAN OF THE CATHEDRAL DEL PILAR AT SARAGOSSA. FROM PONZ. SCALE 100 FEET TO 1 INCH.

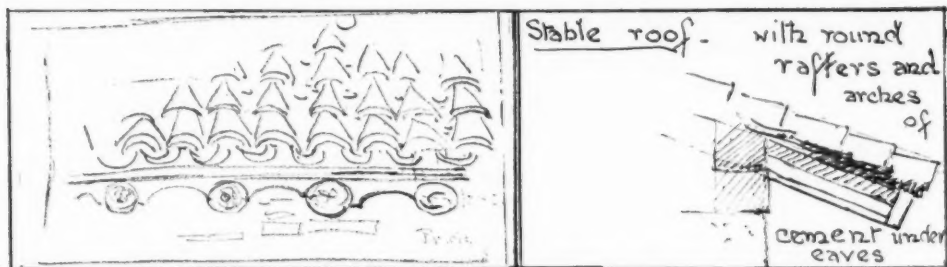
how many important dates in Spain occur at this glorious period of her history!), crosses with seven arches the main channel of the Ebro, the center arch having a span of one hundred and twenty-seven feet. From this fine old bridge one has an excellent view of the city, with La Seo to the right, the Lonja in front, and, to the left, the cathedral of El Pilar (dedicated to the Virgin, who is supposed to have here appeared on a pillar when St. James was on his missionary journey through Spain). This clumsy mass, covering one hundred thousand square feet, and nearly five hundred feet long, the largest modern building in Spain, was designed by Herrera in 1681. The countless small domes covered with gay blue, green and

white azulejos (glazed tiles), are picturesquely reflected in the river, but the lack of a great central dome makes the exterior resemble a structure built of toy blocks. Although the plan is good, the detail is bad throughout; the interior looks like white and gold stage scenery, and in spite of its great size it is unworthy of serious notice.

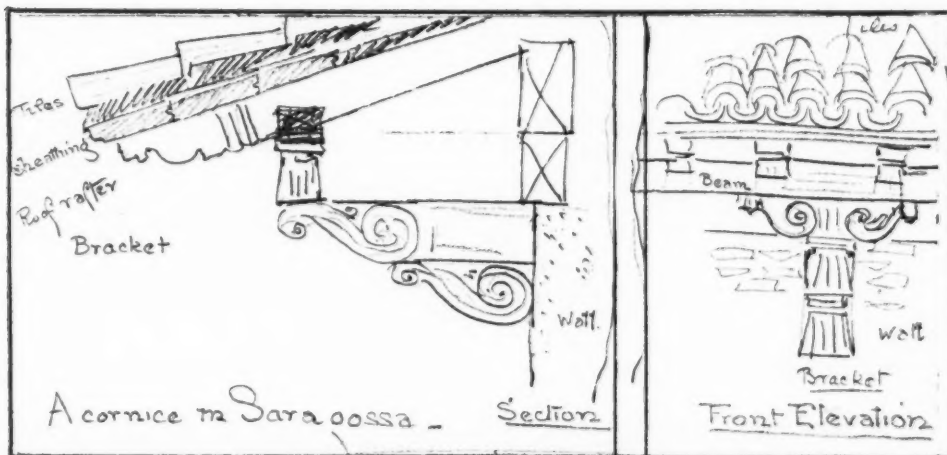
El Pilar is the annual resort of many devout pilgrims; on the twelfth of October over fifty thousand often worship at the shrine of the Virgin. Rich gifts of silverware, jewelry, etc., are constantly being made to this church; from these the dean and chapter sometimes make selections, which are sold. In 1870 \$100,000 was made in this way, and applied to the finishing of the Cathedral. When such a sale is advertised, collectors everywhere are on the alert in order to secure priceless heirlooms. A remarkable specimen of Spanish goldsmiths' work, rock crystal with gold medallions, the gift of Henri IV., was in this way acquired by South



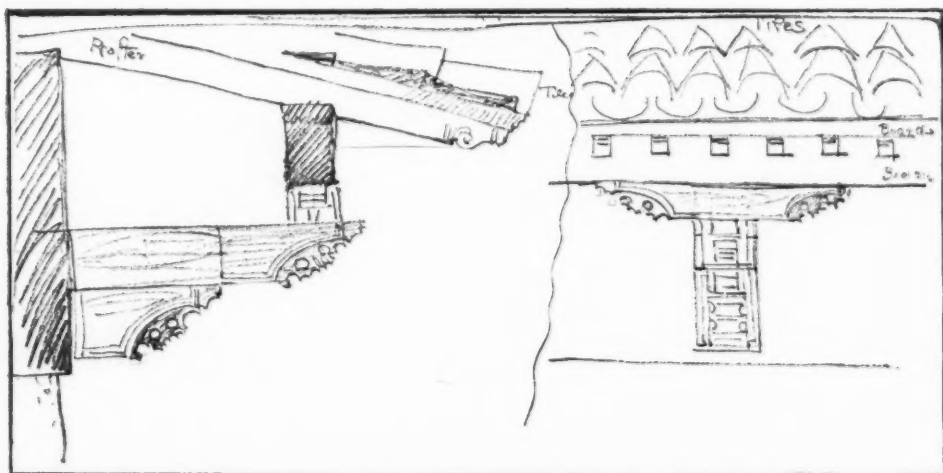
CHURCH OF ST. MICHAEL, SARAGOSSA.



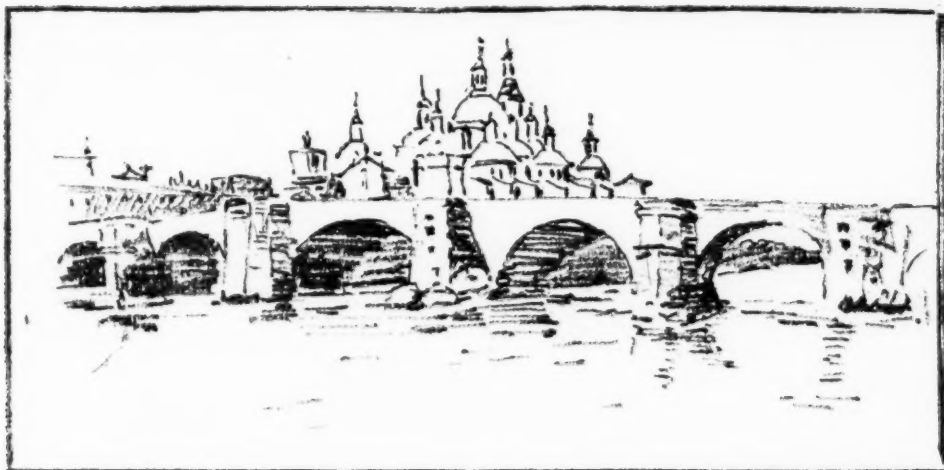
A CHEAP CORNICE FROM A STABLE IN SARAGOSSA.



A CORNICE PROJECTING FOUR FEET FROM THE WALL—SARAGOSSA.



AN UNUSUALLY FAR-PROJECTING AND RICH CORNICE—SARAGOSSA.



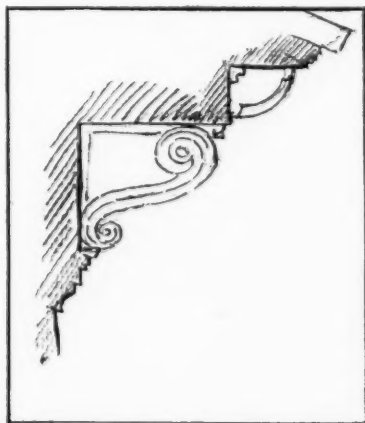
THE NEW CATHEDRAL, EL PILAR, AND THE OLD STONE BRIDGE FROM THE EBRO, SARAGOSSA.

Kensington for four hundred pounds. The great veneration of the citizens for El Pilar is evidenced by the numberless shops and booths entirely devoted to the sale of relics and souvenirs. Even the careless traveler feels a pang of self-reproach if he leaves Zaragoza without a rosary or at least a sealed certificate to prove that he has made the pilgrimage to the shrine of the old black "Pilar." The stone pillar (supposedly the one on which the Virgin descended) is worn concave by the fervent kisses of the multitude.

The splendid Gothic retablo (high altar), taken from an earlier church on the site of El Pilar, is the finest piece of carved alabaster in Aragon, emphasizing by force of contrast the tawdry tastelessness of its surroundings.

After the brilliant sunlight of the plaza, the old cathedral, La Seo, seems impressively dark. Incense floating up in wreaths around the tall Gothic piers makes the vaulting seem unusually near heaven. A little light slants down in straight white lines through the misty blue atmosphere from the few small, round (very grimy) windows high up on the north side. Here, one must forget that nothing is correct from an architectural point of view, that the plan is bad, the detail crude, the whole a hopeless mixture of vulgar styles, and then enjoy the whole church from a painter's stand-

point. To him the soft rich browns and greys of the stone work, the curiously effective cherubs encircling the capitals of the high piers, the great, gaudily gilded, Moorish bosses and pendants on the vaulting above, the many picturesque old altars, for a fit setting for the devoutly kneeling figures below, the elderly men wrapped to the ears in their heavy black cloaks (a Spanish touch of color gleaming out in the red or green plush of the linings), the ladies in soft black, modestly veiled by their lace mantillas, the women and children in vivid though well worn colors, with gay ker-



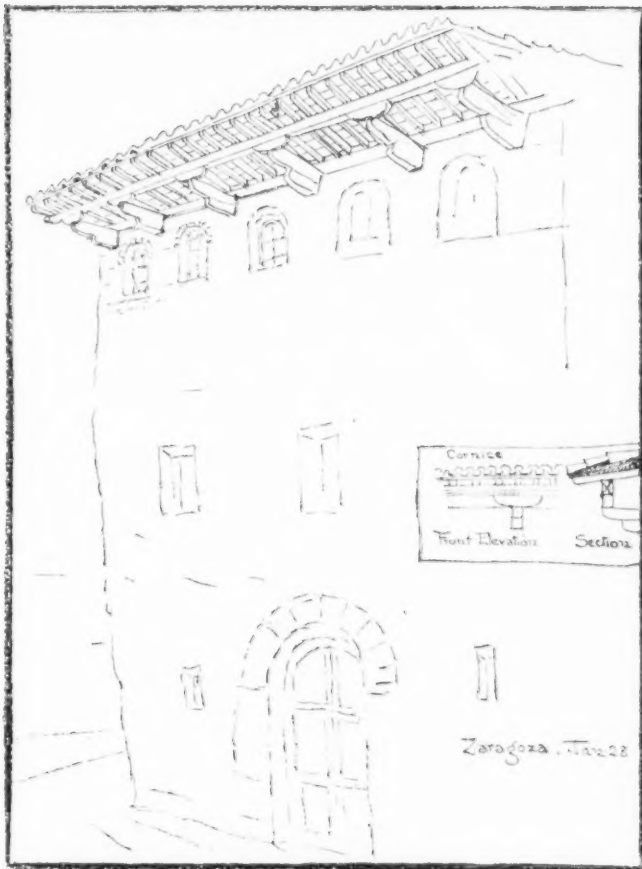
TYPE OF WOODEN CORNICE VERY COMMON IN SARAGOSSA.

chiefs decorously concealing their hair, all telling their beads attentively, one woman in an ecstasy of devotion before her favorite saint even beating her forehead on the dirty stone floor!

The cathedral can also be entered from a narrow street, through a spacious vestibule, vaulted with good Gothic vaulting with large brass rosettes, which tradition tells us, was built by Al-Rami, the Moor, in 1498. This is called "La Pavorderia" (from the name of the official who used to distribute rations here). The corbels and walls are adorned by delightful sculptures, little angels, lambs carrying banners, etc., of which it is impossible to get a good view, as projecting wooden doors partly conceal the inner entrance. The floor of La Seo, like that of other old churches, is much below the present street level. The marble pavement repeats the pattern of the vaulting above in brown and red stripes.

In winter, this is nearly covered by thick straw mats, as people cannot kneel long on the cold, damp stones. In Spanish churches the congregation seldom uses chairs or kneeling benches; of course, our comfortable pews are unheard of innovations.

La Seo (see, seat of the archbishop), commenced in 1119, on the square plan of the principal mosque of Saragossa, embodies some of its Moorish walls; that on the northeast side is a dignified, interesting piece of brickwork, sixty-five feet long, built mainly of bricks thirteen inches by seven, two inches thick, laid up, "long and short," with mortar joints half an inch thick. Large orna-



CURIOUS CORNICE ON AN OLD HOUSE IN SARAGOSSA. THE PLATE ON WHICH THE ENDS OF THE SLENDER RAFTERS REST IS CARRIED BY PROJECTING BEAMS THREE FEET OUT FROM THE WALL.

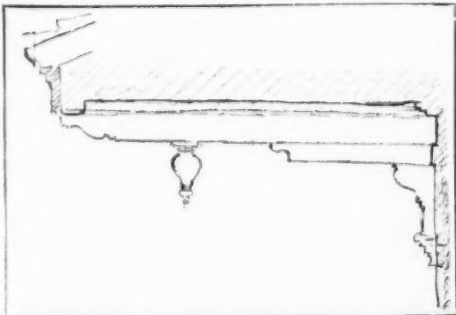
mental patterns made by the projecting heads, decorate the surface, the center of the spaces being filled with azulejos (glazed tiles) of red, buff, white, deep blue and light green. The tiles are of various shapes, and are glazed all over. The bricks project about an inch and a half. Window openings have at various times been cut through the flamboyant patterns, and many of the tile have dropped out, without, however, greatly injuring the general effect, which is harmonious and dignified. Probably some of the picturesqueness is due to the roughness of the brick-laying.

An odd story is told of the restoration

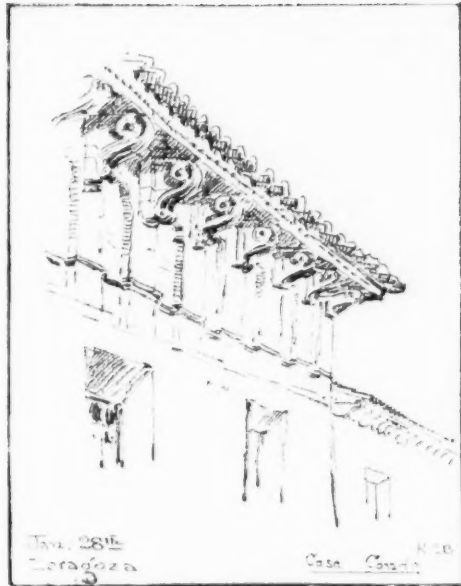
of the old Cimborio. In 1500, the Archbishop, finding that it had been weakened, called a Junta of architects, who advised its instant removal. In 1505, he appealed to the King, stating that the Junta having advised certain repairs, he was anxious to secure the services of Egas, a man of ability and experience, who had excused himself on the plea of other work, which included a bridge, "whereupon the Archbishop begged the King for the love of God our Lord to command Egas to



DETAIL OF CORNICE, SARAGOSSA. FROM A HOUSE NOW USED AS A STABLE AND TENEMENT.



SECTION OF THE SAME CORNICE, SHOWING DELICACY OF DETAIL IN THE WOODWORK.



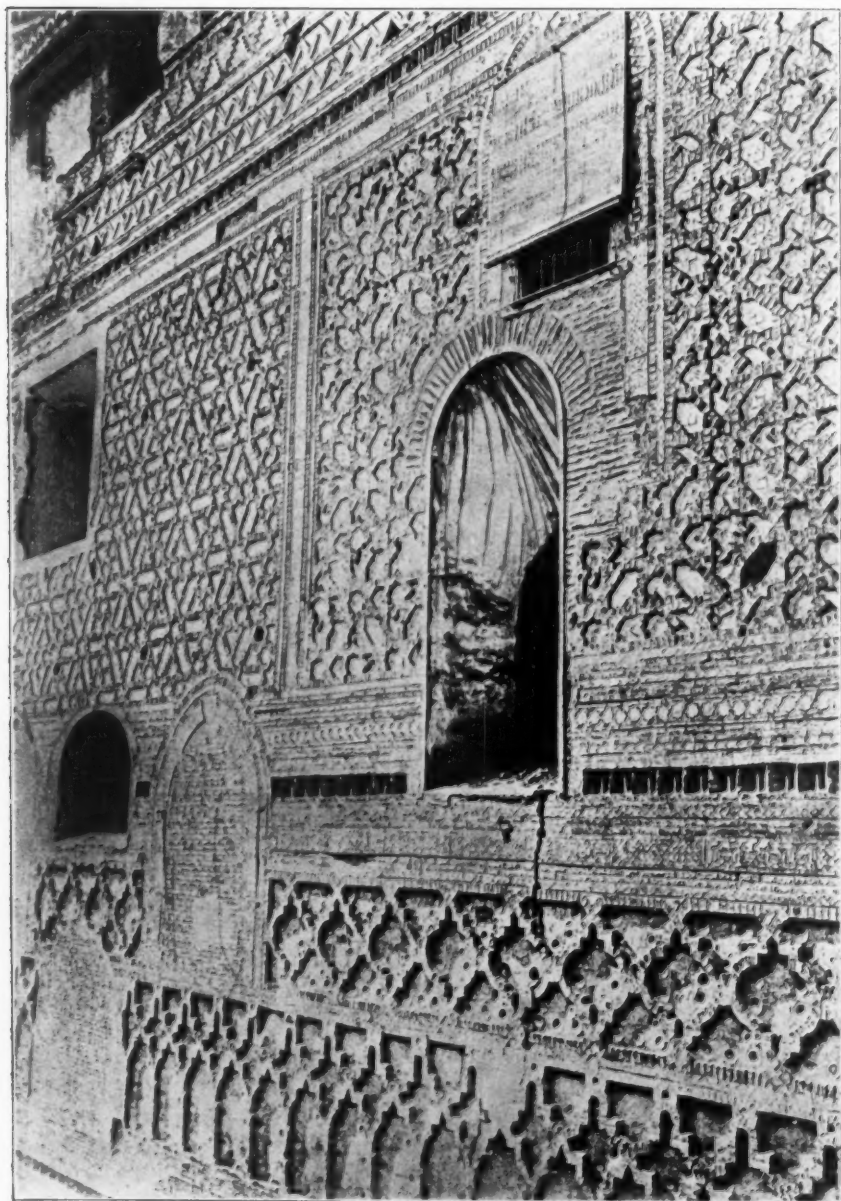
OLD CORNICE AND ARCADE OF THE CASA CONDE, SARAGOSSA.



CORNICE OF UNUSUALLY LARGE BRICKS, WITH COURSES CORBELLED DIAGONALLY, FORMING A ZIG-ZAG PATTERN, SARAGOSSA.

undertake the work at Zaragoza." Such reluctance to undertake more work is seldom seen among modern architects!

A black marble slab marks the spot where lies the heart of Don Balthasar, the little prince Velasquez so loved to paint, who, at seventeen, died here of

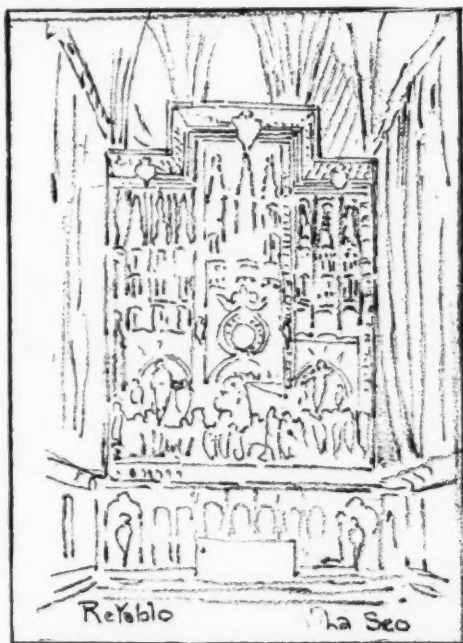


DETAIL SHOWING PATTERNS IN BRICKWORK. LA SEO, SARAGOSSA.

smallpox. His body rests in the royal children's tomb at the Escorial with six of his little brothers and sisters, including the little blond Infanta Marguerita, who figures with her maids of honor in Velasquez' wonderful picture, "Las Meninas."

The retablo (high altar) is a splendidly decorated one, made in 1350 by Dalman de Mur.

The interior arrangements of Spanish cathedrals differ greatly from those of other Catholic countries, the magnificent ceremonials being conducted in a space resembling a smaller church enclosed in the center of the vast floor. The splendidly decorated high altar, shut off on all sides but the west by high sculptured screens, is divided by about forty feet of open space from a similarly enclosed coro (choir), where the majority of the clergy sit on richly carved silleria, chanting from a great music book raised on a revolving stand in the center. As these old books are about five feet high, with notes and letters at least six inches long, the entire choir can read with ease. The gorgeous initials in these books were patiently designed by monks, whose whole artistic feeling found vent in this one outlet. They are still splendid in coloring, uninjured by four hundred years of daily use.



CARVED AND PAINTED HIGH ALTAR, LA SEO, SARAGOSSA.

The sacristy contains three large painted busts, portraits of saints, made at Avignon in 1394, and still used on the "altar mayor en las grandes festividades." One can imagine their appearing in honor of the coronation of the Kings of Aragon and the baptism of Ferdinand, as they still do at mass on all great festivals.

It is difficult in these peaceful days to realize the intense excitement that followed the death of Pedro Arbues, the ferocious grand inquisitor, who was assassinated here under the crossing. Ferdinand rewarded his murderers by burning them alive, incidentally, after the generous fashion of the Inquisition, tossing a few inoffensive Jews into the funeral pile. The cruel Arbues has since been canonized.

In front of La Seo is a little square, elaborately laid out with palms and plants, that are green, even in mid-winter. The fountain in the center has a bronze "Justice," covered with a most exquisite blue-green patine. With characteristic lack of common sense, this fountain, which must supply all the



AZULEJOS (COLORED TILES) FROM THE CONVENT DEL SANTO, SARAGOSSA.



OLD HOUSE IN SARAGOSSA, NOW OCCUPIED
AS A STABLE AND TENEMENT.
(Phot. by K. C. Budd.)

neighboring houses, is set in the middle of a wide basin. Each girl who comes to fill her great water jar must bring a tin tube six feet long to conduct the water from Justice's dripping urn into her jar. The gossiping women form charming groups, as they wait for their turn near the slowly trickling stream. Spanish women know how to dress far better than do their sisters in Italy and France; and their beautiful hair, elaborately arranged by the barber, is generally adorned with a flower or showy ornament. Saragossan women, unlike other Spaniards, are always busy, even on the streets, sewing, knitting, or crocheting, while they talk.

San Pablo (built in the thirteenth century) possesses a brick octagonal tower which Fergusson characterizes as "remarkable, unique"; an interesting interior with fine carved silleria, and a splendid retablo of carved and painted wood. The picturesque north door has late Gothic sculptures, etc., under the wide wooden cornice.

The old church of Santiago is named for St. James, who lodged on this spot during his missionary journey. The twelfth-century capitals of the columns have been taken to the Museum at Madrid; its one treasure is the Campana Goda (bell cast by the Goths).

At first it is difficult to understand why the old houses here are attractive;

for the prevailing style is rather insipid, the rectangular windows being without enrichment, architectural projections seldom covering the great entrance doors, and all decoration being confined to the arcade and projecting cornice of the upper story, where the arches often have two or three reveals, stepped back, with impostes and string courses of several projecting courses of brick, following the breaks of wall surface. All is of a character easily executed in brick of various shapes, which is laid up with a vigorous roughness that gives character to the whole. In more modern cities this would be considered a defect, and carefully concealed under a smooth coating of cement. The general height of buildings being the same and the style uniform, the effect of the whole is singularly harmonious. The ponderous iron work, the great window grilles, the balconies with their supports, the bars, even the heavy bosses and nails studding the doors, add to the peculiar fortresslike effect.

The old part of the town, originally laid out by the Moors with narrow, winding streets, must have been rebuilt about the end of the fifteenth century. The frowning cornices nearly meet



HOUSE AT THE END OF ONE OF SARAGOSSA'S CHARACTERISTICALLY NARROW STREETS.

(Photo by K. C. Budd.)

overhead, shutting out the sky; a few barred windows light the lower floors. The great entrance is sometimes wider than the wretched little donkey track on which it opens; between the enormous doors one enters a spacious vaulted vestibule paved with small, flat, water-worn stones, black and white, set on edge in large waving patterns. Another set of heavy doors, opposite the first, opens on the beautiful patio (court), which is large or small, according to the means of the owner. The airy gallery and bedrooms above are supported on very heavy Doric columns, with fantastic scrolls and corbels widening the capitals. A Spanish patio is the main living room

of the family, except in the coldest weather. Sometimes one finds two staircases running up from the patio; an immensely wide one, with absurdly easy treads (two inches high and eighteen wide), and an elaborately carved railing, and the service stairway opposite. The wide nosing is generally of oak, the rest, risers and treads, of red tiles, which must be cool in summer, (they certainly are in January!).

The ground floor on the "calle" (street, pronounced cahlye), occupied by the servants and sometimes also by the horses, has a few small window openings; the next stories, larger windows, all heavily barred; the top story, an airy gallery sheltered by the wide roof, a pleasant place in hot weather.

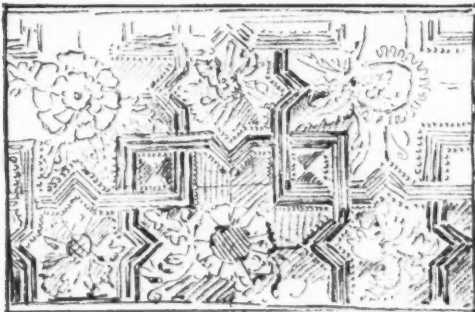
The arcades of the top stories of the houses differ greatly in detail; so do the cornices, which are here treated "more architecturally than anywhere else in Spain." Moulded corbels of wood placed under a plate several feet out from the wall, support a roof wide enough to cast a fine shadow. Cornices are generally of wood, although occasionally one is found built of large flat bricks carefully corbelled out, set alternately in straight and diagonal lines. Some of the wooden cornices are Mudejar, others pure Gothic, often elaborately constructed and richly carved. As the palaces of Saragossa had no gardens, the arcades formed the only place where carefully secluded señoritas could live with freedom in the open air.

Having been struck, on entering Saragossa, by the general resemblance these houses bear to some of the Tuscan palaces, I was much interested in the discovery that the "Casa del Comercio" (one of the oldest) was so called because it was built and occupied by a company of Genoese merchants.

Traders originally met in maritime cities, near the shore where their ships were moored, on a long platform which, at first, was not covered in from the weather. The first Lonja (Exchange) was built at Barcelona; the prettiest one, at Valencia, in 1482, followed by the stately one of Saragossa, 1551, and that elaborate masterpiece of



TOWER OF THE CHURCH OF SAN PABLO,
SARAGOSSA.



A FRAGMENT OF THE ARTISONADO CEILING FROM THE ROOM IN WHICH SANTA ISABEL WAS BORN ; NOW IN THE MUSEUM AT SARAGOSSA.

the plateresque, built by Herrera in 1585 at Seville.

The style of the Lonja of Saragossa was universally used in building the residences of the nobility in what was then the capital city of Aragon. The exterior is well proportioned and vigorous in design ; but the great vaulted room, where merchants formerly held their meetings, being too lavishly decorated, lacks the simple dignity of the façade.

The Casa de Zaporta, with a beautiful portal and the richest renaissance patio in Spain, was for many years sadly neglected. Erected by a merchant named Zaporta, who was evidently familiar with Italian models, the details were enriched to suit the florid Spanish taste, the

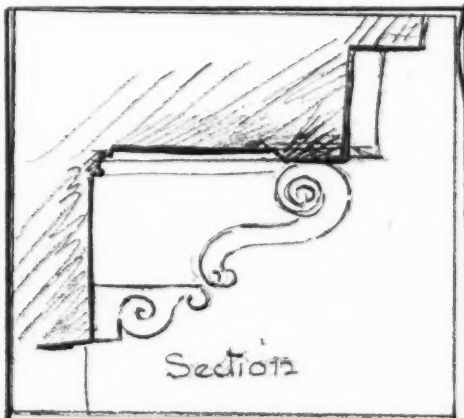


ENTRANCE TO THE AUDIENCIA, SARAGOSSA. CALLED BY THE COMMON PEOPLE THE HOUSE OF THE GIANTS.



HIGH ALTAR IN SAN PABLO, SARAGOSSA.

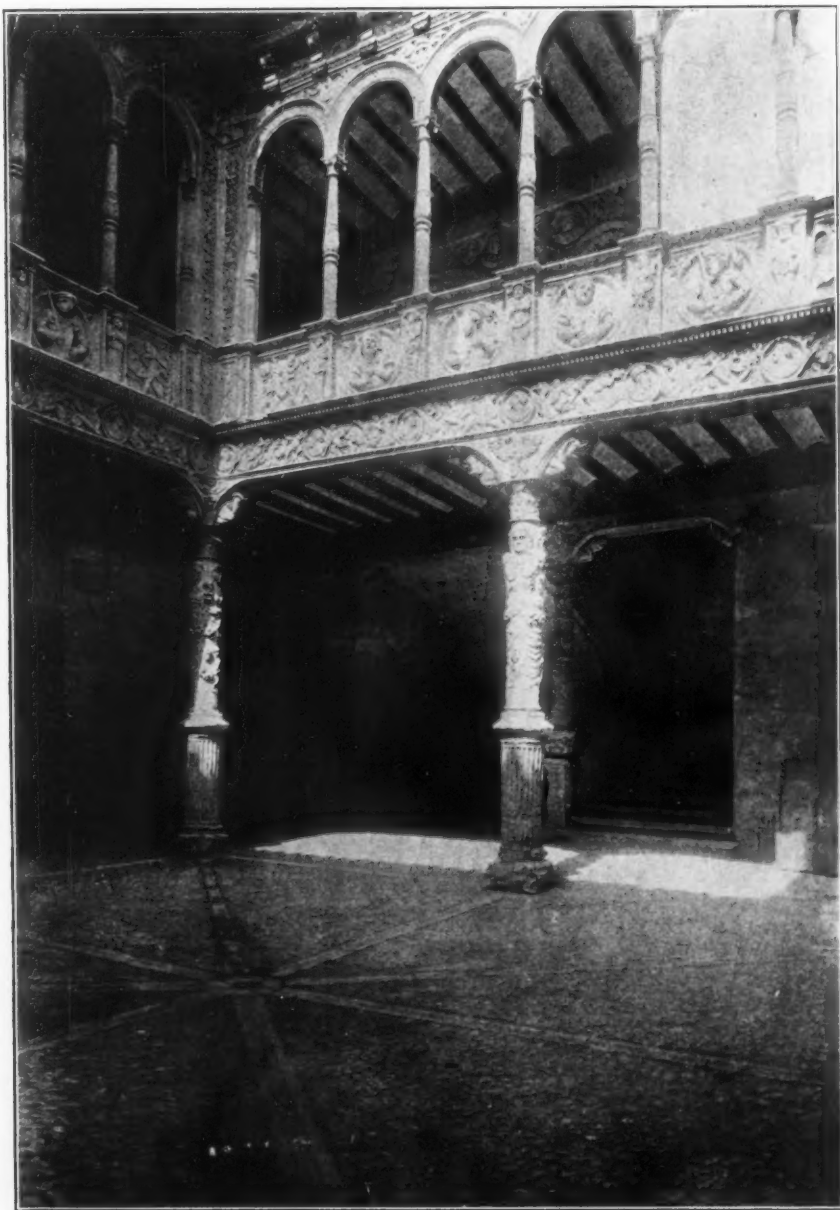
galleries and carved balustrades of the second story resting on over-elaborate columns with bracket capitals and anillos (rings), halfway up the shafts, dividing them into two heights. We are told that "it possessed a magnificent staircase, sculptured in exquisite taste, a beautiful patio with fluted columns," etc., etc. The elaborate cornice of wood was found to be in fair preservation after an exposure to the weather of nearly four hundred years, but the stone



AN OLD CORNICE WITH DOUBLE BRACKET, SARAGOSSA.



THE LONJA (EXCHANGE), ONE OF THE FINEST BUILDINGS IN SARAGOSSA.



PATIO OF THE CASA ZAPORTA, SARAGOSSA; THE BEST RENAISSANCE COURTYARD IN SPAIN. RECENTLY REMOVED TO PARIS.

carving had been much defaced from years of abuse. The Casa Zaporta, now in Paris, is forever lost to its native city.

A larger palace is the noble building, the Audienca, formerly owned by that powerful Luna family to which belonged the anti-pope Benedict and the "Trovatore" of operatic fame. The common folk call this the "House of the Giants," from the great figures at the entrance. The proportions of the whole building are very interesting.

The Castillo de la Aljaferia, built by the sheikh Abu Dja' far Ahmed, became the residence of the Kings of Aragon, and, later, the palace of the Inquisition. Since its partial destruction by the French in 1809, it has been occupied as a barracks. Some interesting rooms yet remain in a fair state of preservation; a small mihrab and several doorways with intricate Moorish tracery; some splendid artesonado ceilings with the arms of the Catholic Kings (Ferdinand and Isabella), and their motto "tanto monta" (thus far he mounts); a magnificent grand staircase, leading up to the most gorgeous old room I have seen in Spain, with a fine artesonado ceiling and delicately detailed gallery; the well-preserved room where St. Isabel of Hungary was born in 1271, with its dado of gay azulejos, etc., etc.

The Aljaferia stands outside, near the gate where Byron's heroine, "Agustina, the Maid of Zaragoza," distinguished herself during the war with the French,

by firing the cannon after the death of her lover, the gunner.

At the side of this gate I saw posted a sign which seemed to me a fair indication of progress. Remembering the extreme poverty and the hosts of beggars in Madrid, Toledo, and everywhere else throughout Spain, it was refreshing to note that Saragossa proposed to take care of her own poor, and therefore forbade their soliciting alms. The sign read:

"In esta ciudad
no se tolera la
mendicidad ni
la blasfemia."

(In this city one allows neither beggary nor blasphemy.) After this I could more readily forgive the bourgeois citizens who were too busy erecting commonplace houses on the outskirts of the city to care for their priceless "historic monuments."

The sketches accompanying this article were made in January, when the dreaded "cierzo," blowing through the icy streets, benumbed the fingers and brought blinding tears to eyes upturned to study details at the top of the houses. However, rough as they are, they will perhaps give a clearer idea of the general character of these interesting cornices than can be obtained from photographs alone, as, owing to the narrowness of the streets, it is difficult to secure good negatives. It will be noticed that the details are peculiar to Saragossa, and quite unlike those of other Spanish cities.

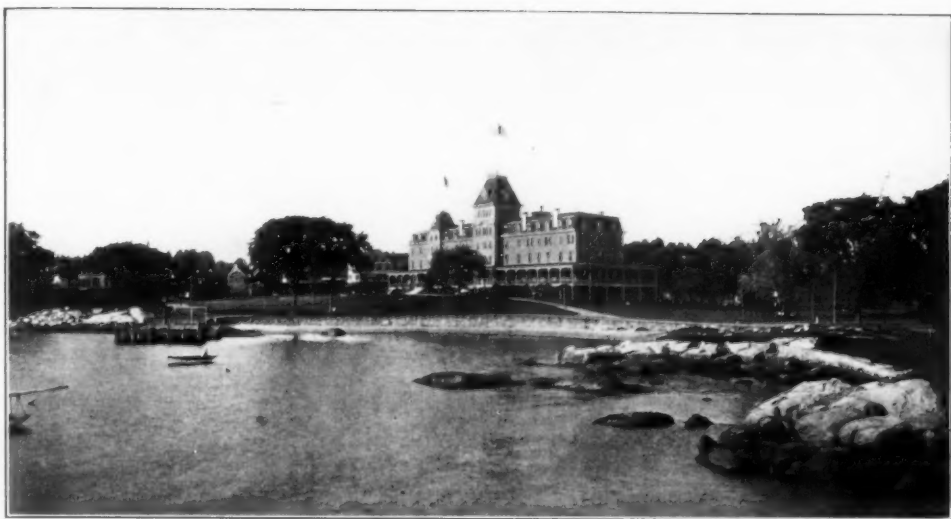
Katharine C. Budd.





THE NEW HOTEL GRISWOLD AS IT WILL LOOK WHEN COMPLETED.
Eastern Point, New London, Conn.

Robt. W. Gibson, Architect.



THE OLD HOTEL GRISWOLD.
Eastern Point, New London, Conn.

↓ The Griswold - A Study in Summer Hotel Building

It is hard to say just where is the beginning of a hotel project, but to arrive at any understanding of its complexity one must certainly go back as far as the arrangement of the financial program, so as to see what controls and determines the expenditures—since this is where many questions of material are settled and many preferences and desires are annihilated.

Capital is an imperative necessity. No hotel project is able, as some inspiring schemes are, to move from the inception with money borrowed on the idea.

The beginning then is when people with money and with hotel experience and with local knowledge and with technical qualifications get together in conference, and, firstly, decide for or against the scheme, and, secondly, determine its main features.

In such a way it was decided to build the hotel here described, which is an interesting example of an interesting class.

The Griswold is a summer hotel on the seashore at Eastern Point, New London, Conn., most charmingly situated where the Thames River opens into the sea. It

is less than three hours' journey by rail from New York—or by water an agreeable day's run for a steam yacht. The broad waters of the ocean are here seen swirling in through the great channel called the Race, to enter the more sheltered Sound. Long Island lies far off, scarcely visible except in very clear weather, and the southerly breezes which make summer delightful come in here with such force that the shelter of the harbor is much in demand for yachts of the New York and other famous clubs, and one of the most frequented anchorages on the coast is this lower reach of the river just within the points of the headlands.

New London port is of very old fame and many big vessels sail and steam by this outpost, going to the town further up, where business takes precedence of pleasure. The United States Navy ships frequently visit here, sometimes for a long stay, sometimes for a simple call; and when they come the stretch of water in front of the Griswold is gay with boats and bunting and bands and with vessels which rival the smartest yachts in splendor and speed. All the small craft

which ply for business and pleasure are seen here at their best, sturdy, weather-beaten fishermen going far enough out to need grit and ballast, lighter boats of the on-shore fishing fleet—yachts of the summer trade type hired by amateur anglers and generally provided nowadays with hustling little gas engines as well as sails, and a hundred and more of schooners, sloops, yawls, cats and every other rig of private craft fill these waters with animated interest.

The land behind to the east and north lies in rolling hills and rocky points separating the lower valleys. The roads are old and romantic; stretches of shady woods alternated with breezy meadow, and, every few miles, the interesting history of this old country shows in the quaint buildings of villages with Colonial names. The land, for those who ride, is as attractive as the sea for those who sail.

Such a place is an ideal setting for a summer hotel; and for many years one has prospered on this spot. But age overtakes hotels very rapidly in the twentieth century, and to meet the growing demands for more comfort and more luxury and greater enjoyment the old house has been razed and a new one built larger, better, and in every way a fair example of the most recent ideas in this direction.

The problems which face the owner who undertakes such a work and the architect whose task it is to organize and conduct the campaign are among the liveliest in modern business. In the first place the financing of such a project is a matter of very close calculation and one which seldom works out with a profit. Hotels which are open all the year round, or which have two seasons of brisk business, can make money if they are well planned, and built without extravagance yet with wise expenditure for the up-to-date machinery and equipment which are essential to good management. Then if the good management is developed, and if prosperity prevails, and no mistakes or misfortunes arise, the scheme will succeed.

Summer hotels have another big "if." They are open only about three months

out of twelve, and for the other nine months all the capital invested is lying idle, not only unproductive, but deteriorating by disuse. This is the great handicap. It evidently means that to prevent loss interest must be earned at the rate of twenty per cent. in those three months to pay five per cent. for the twelve, and five per cent. only takes care of "fixed charges." To provide any profits worth consideration a rate of forty per cent. is needed during the short high pressure season. But the rates and receipts in a summer hotel cannot be made larger per room or per person than in a winter house, or an all the year round hostelry of equal grade. The problem must evidently be solved in one of two ways: the "fixed charges" must be kept down by economical building and profits must be limited to a sufficient compensation for the business intellect engaged in the work—or else the question must be answered like many another riddle of which the answer is too hard; it is given up. In fact most summer hotels do give up. Mistakes or misfortunes, errors of judgment in the start or poor business later, have carried many such enterprises through "reorganizing" trials whence they emerged with reconstructed liabilities and reduced valuations; and in this way fixed charges are at last marked down. There is another method of finance which oftens accounts for apparent success. A hotel is sometimes only an item in a scheme which includes many other things, such as railroad or steamboat lines or a large estate in process of development, in which case a very low profit or even a loss is accepted and charged off, to be met by desired benefits in the other departments.

The Griswold belongs to this class. The large interests of Mr. M. F. Plant, whose private estate and residence are a short distance away, have led him into this and several other enterprises of a public nature wherein the general improvement of the neighborhood is counted more important than the other profits in the project.

But this does not relax the rules of economic business. Perhaps it calls for more attention to them. In any case the

main point to note is that there is no margin for waste or loss.

The summer hotel demands the closest possible attention to every detail. There must be free use of expensive furnishings and machinery, housed in enormous buildings which tempt waste at all points, where specialists are installing their own particular devices. But the thousands of dollars appropriated must be every one watched and counted. Liberality means success, but extravagance means ruin.

The next factor in importance is time. Time also is money. The short season of three months, if lost, loses a whole year of revenue. More than that, it loses the "good will," the business relations of numerous customers; and interest, rent, taxes and expense go on all the time, while the building is being erected and furnished, although nothing is coming in. One season dropped out will allow about twenty months for reconstruction, and this has sufficed for many hotels; others have been delayed and had to take two seasons.

The promoters of the Griswold took the most energetic attitude and decided to do the extraordinary. The old building stopped operations September 4, and before the last guest had gone the old equipment was being sold at auction, and the contracts for the new building were closed and signed; and they provided for a splendid structure which was to be open for business in the June next ensuing. This program was made very quickly, but it meant weeks of hard work in preparation, as the advance notice had not been a very long one.

The architect, Mr. R. W. Gibson, of New York, had, beside a previous experience in hotel work, an aptitude for haste and methods of business with which the building owner was familiar, and which had his approval and confidence; in short, an organization already working upon other things was waiting for the enterprise. A firm of builders was fortunately found with just the right equipment, a systematic concern headed by enterprising men, who were at that moment finishing important contracts, and looking for a new field for their capacity. The way in which they started

the work promised at once the success they achieved. They began the wrecking of the old edifice before the furniture was removed, and they purchased material and hired labor with foresight and liberality. A weak point of building contractors is often developed in their too great anxiety to sublet all responsibilities and in consequent dislike to undertake anything themselves, even in matters of organization which no one else can be expected to do. Messrs. McGuire & Penniman, of Providence, R. I., showed better judgment; among other things they saw that comfort for their workmen meant better result for all, so for this winter work they provided transportation to the town of New London, instead of leaving the workmen to find lodgings as best they might in the neighborhood. They bought the steamer "Osprey," which had formerly done the hotel transportation, and operated her continuously between the town and the new buildings. They entered into arrangement to embody into their own contract all others which the architect should request, so as to provide for all the details, which sometimes make disputes between one sub-contractor and another, and eliminate delays of that class. And they took an attitude of frank willingness in efforts to do in general what was wanted at a fair price and profit, without trying to extort "all the traffic would bear."

Thus, well launched, the enterprise progressed fast. In the middle of September the old buildings had been partially destroyed, so that new work was able to be begun. By September 30, 1905, a hundred and fifty men were busy, in charge of a competent staff, housed in a neatly adapted executive building (which was formerly a bowling alley). Foundations were being laid, schooners were arriving with cargoes of material, and the frame of the new hotel was rising fast.

About sixty days later the south wing, which was most forward, stood in skeleton its full size, five stories high, with main cornices beginning to stretch their symmetrical lines of Colonial mouldings, and to bind the masses into architectural



1. LAYING UP THE FOUNDATIONS.
2. THE FRAME OF THE MAIN BUILDING.

HOTEL GRISWOLD.

Eastern Point, New London, Conn.

Robt. W. Gibson, Architect.

unity; windows began to shape themselves through the sheathings and posts, and still the frame grew longer and higher in the northern direction. It began to take form as a big and imposing block of buildings standing on three sides of a quadrangle and showing about 400 feet front toward the water and having a total length, including wings, of about 600 feet. This length, covering ground averaging about 65 feet wide, gives over 40,000 feet main floor with piazzas.

Then there are separate buildings for power house and dormitories for servants, aggregating about 256 feet long and averaging 40 feet wide, two stories high, so that there is a grand total of floor space of nearly four acres, or 160,000 feet. This space is divided into about 500 rooms of various kinds, with a total of 1,200 windows and almost as many doors. It would waste time to give the quantity of steam pipes and electric wiring used, but these and similar items are of course stupendous. Suffice it to say that the house will accommodate about 300 guests and over 100 servants.

With this preliminary conception of the size of the building it is possible to realize what great work had been done when the year closed. In three months these buildings stood nearly all framed, sheathed and roofed, with window frames set and most of the cornices on and nearly all the roof coverings. Only the dining-room wing was a little behind; some heavy trusses required to carry the three stories of bedrooms above had necessitated special iron work, and here the building was only two stories high; but that, after all, was only a small section of the whole.

The first of January, frequently stormy and cold, came smiling upon this busy scene, continuing the favorable weather of the autumn without snow or frost, and January as it drew to its end saw the buildings enclosed and heated by steam. The old boilers and apparatus had been preserved for that purpose. The work then was practically independent of the weather and thus the first great question in the problem was answered. It was now not only possible but probable that the great building could be built "be-

tween seasons." But many things were still in a rather unsettled condition.

The hotel problem is a complex one even when unlimited time is available. After the building was planned and the exterior designed and that work started, the subjects demanding attention in due order were these: Plumbing, water supply, heating, lighting and other electric work, elevators, cooking apparatus, kitchen machinery, ice machines and refrigerators, laundry machinery, boilers and power house, grading and gardening, new roads and paths, furnishings and decorations, transportation and supplies, staff and "help," each of these headings being made comprehensive so that all the many details not mentioned are grouped under one of these broad titles.

A brief survey of the plans and of the motives inspiring it will be necessary to an understanding of the equipment.

The first characteristic of a good plan, favoring economy of construction and of operation, is system. Rooms must be not only square, well proportioned and of varying sizes, but they must be suited to the available timbers for building, and to the furnishings and carpets, and must be all alike in each class. In procuring materials, for example, an awkward or unusual size, a difference of an inch in thickness or a foot in length might cause a waste in cutting up, or a delay in delivery. Odd sizes for beams and posts, while not important in one room, would, when multiplied by hundreds, be a serious handicap. And so designing must facilitate furnishing. After steering clear of that elementary bugbear, a room where there is no place for a bed, there are more subtle points to be considered to advantage. For example, rooms to be carpeted may be done more quickly and cheaply if they are built of a width just taking five or six or any exact number of breadths of carpet, without cutting an odd strip at one side—and, of course, if many rooms are exactly similar, carpets and other things can be changed from one to another and will fit, and many similar motives suggest rules of that kind.

The plan begins then by deciding upon

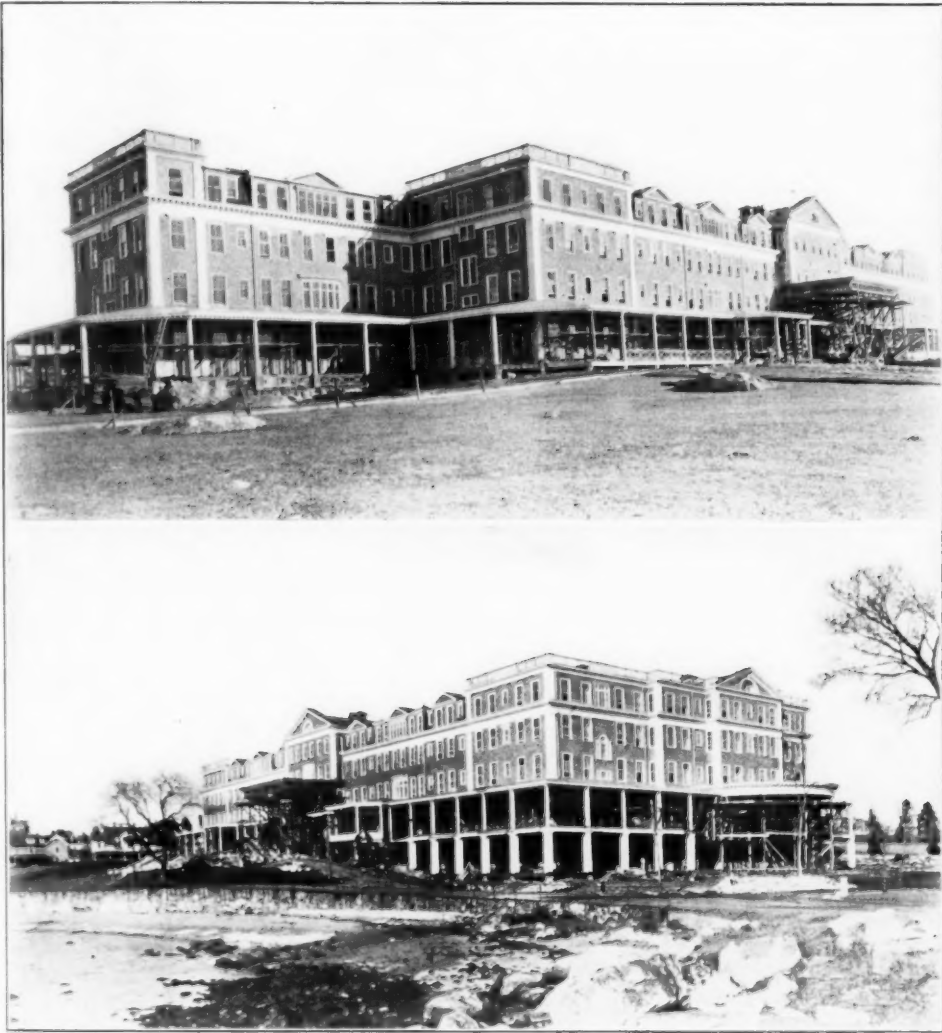


1. FROM THE NORTHWEST—SHEATHING ALMOST FINISHED.
2. SAME VIEW VERANDAS AND TRIM WELL UNDER WAY.

HOTEL GRISWOLD.

Eastern Point, New London, Conn.

Robt. W. Gibson, Architect.



1. NORTHWEST WING AND MAIN BUILDING.
2. FROM THE SOUTHWEST.

HOTEL GRISWOLD.

Eastern Point, New London, Conn.

Robt. W. Gibson, Architect.

three typical rooms, the single room, the double and the large double; and after deciding how many of each are desirable, placing them in relation to one another, and to the bathrooms, so that either type can be rented with or without bath. The bathrooms are reduced to a standard size, and clothes closets, also standardized, are distributed so as to favor the best rooms in the best parts of the house.

The best parts of the house are the south and west. That way is the most charming view and the summer breeze, therefore that way we make more large rooms; and break some forward to make more corner rooms, and so on. Then we arrange our rooms upon halls and corridors. In this matter simplicity is everything. Straight, wide halls are insisted on, always running to the outside wall and window, with no dark, dead ends or corners. This admission of daylight and air enables us to leave out the transom over bedroom door for the benefit of the guest within. Instead of making him uncomfortable that the hall may be lighted through his room, as many hotels do, we give him a transom of paneled wood, which gives him ventilation or privacy with luxurious darkness, as he may prefer.

These straight halls go to make a safe building. In case of alarm of any kind one can always get out expeditiously and safely, because there is a staircase from top to bottom of the building at each end of every hall or corridor, in addition to the usual main stair in the middle and service stair near the office. There are thus seven separate stairs beside the kitchen service stairs and other short flights; and each leads down to a door giving exit close to the foot. In the event of a fire or smoke alarm, a person anywhere in the building can therefore turn away from it with the certainty of coming to a stair. This feature in the plan is more productive of safety than anything feasible in fire resistance; for it has been seen that even in city fire-proof buildings the first thing to make safety is free exit.

But what can be done in the direction of fire resistance is done. All these halls and rooms are lined with fireproof plas-

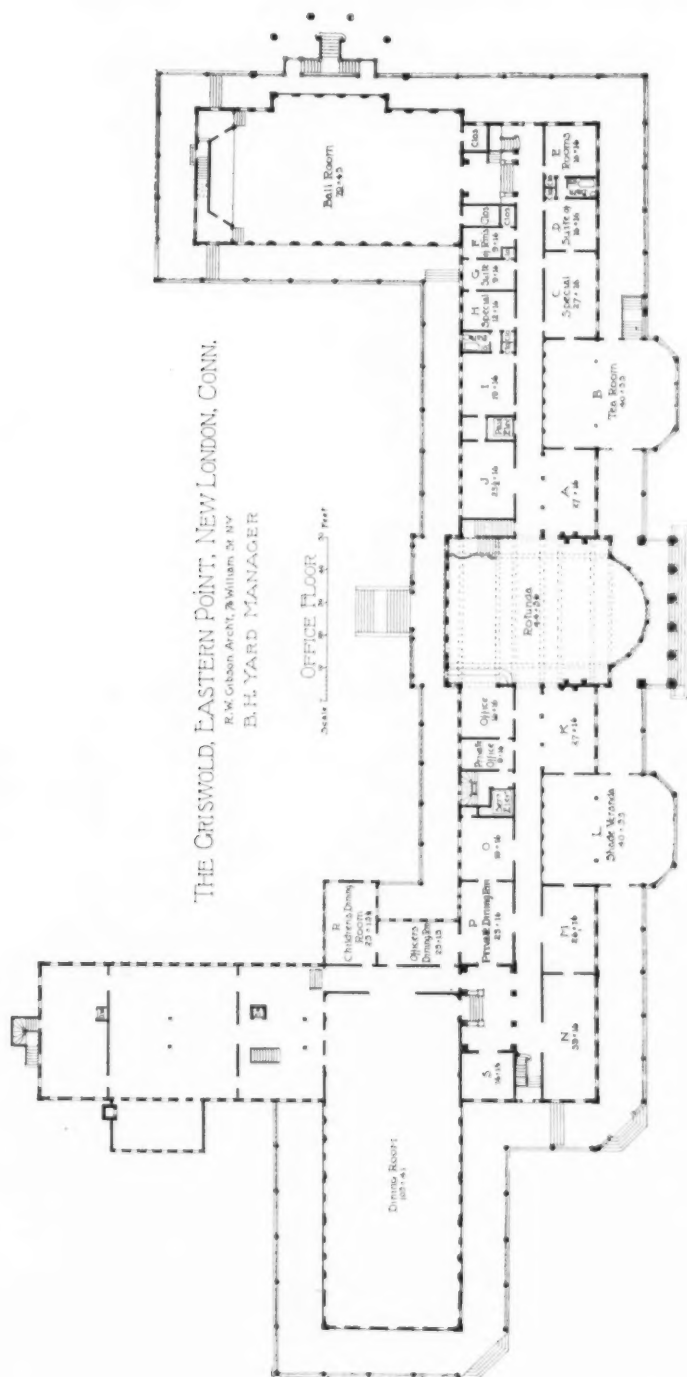
ter boards, finished with hard patent plaster; giving much better protection than ordinary lathed work, and while upon this subject it may be noted that fire hose and hydrants always ready are provided inside and outside the building. It is interesting to observe that the cost of doing this work is compensated in the reduction secured in the cost of insurance, thus showing that the insurance companies consider such devices of great value.

Returning to our plan composition; we find that our desired number of standardized rooms, placed along both sides of a wide hall, and divided into three floors will need about 42 feet of width, and about 600 feet of length, of building. About 400 feet is the most desirable front length, and we therefore dispose of the remainder in wings which enclose three sides of a quadrangle open on the fourth side to give sunshine and perfect airiness. There must be no backyard effect in this court. Instead it is to be laid out in croquet and tennis lawns; and will have the carriage entrance to the rotunda, and will in fact be a garden front.

This general shape decided upon in the upper stories, we proceed to lay out the main or office floor. To do this we must have some regard for the effect and style. We decide upon the Colonial style for its cool, clean airiness, its fresh white paint and wide open spaces; and the manager's preference is allowed to prevail in making the great rooms—the rotunda and dining-room and ballroom—free from columns. Although this involves considerable engineering skill and expense, to support the upper stories over these wide spans, it is believed that the attractive appearance, and facility for service, will justify the cost. So each of these large rooms is planned and placed, having regard always to the lines of walls required above.

The rotunda, 70 feet by 45 feet, is in the middle of the building, with outer walls nearly all glass and with a portico of Colonial Corinthian columns 30 feet high for its front porch.

Next the dining-room. At this we pause to consider the kitchen. The two



are inseparable. We find we need a kitchen 90 feet by 40 feet, or the equivalent. It must be to leeward, so that in the warm weather, when the wind is always southwest, all the heat and smell of cooking will blow away from the hotel, instead of into it. So the kitchen must be at the northeast, and is so placed. Therefore, the dining-room must be north and facing west, and thus it will be toward the water front to enjoy the precious breeze and view. It is made 100 feet by 42 feet. This settled, it naturally comes about that we plan the ballroom at the other end, the south, and make it 90 feet by 48 feet, and as the ground here falls away to a lower slope and the basement comes out above the level of the grass terraces, a part of the basement is taken for additional amusement departments. The summer hotel population in the warm months revels in an abundance of ice cream and soda; so here, in combination with the useful "drug store," is placed a parlor for that luxury; and near to it, on one side a play room, which can be used for whatever games are temporarily favored, and on the other side the hairdressers, manicures and such like comforts. At the southeast corner, accessible from outside is the billiard room and some spare space to be allotted as required.

These departments are all practically part of the main floor, and would be put there if it were not that the basement offered opportunities above ground.

The office floor, having thus its middle and two ends allotted, is divided next by the corridor down the middle, from end to end, with exits both ways, and on each side of this corridor rooms are made, placing those connected with service to the north, including office, with counter and cashier's desk, manager's private office, committee room, private dining-rooms near serving department, staff dining-room, children's dining-room, parlors and reception rooms, telephone and telegraph, and news room and writing room. Then on the other side come ladies' writing room, lounging room, large tea room, which is part of the veranda system, enclosed with glass and shaded with Venetian blinds, and

beyond, two special suites of rooms with baths, each including large drawing-room and two bedrooms, available for special or ceremonial use, or serviceable as parlors, when so required.

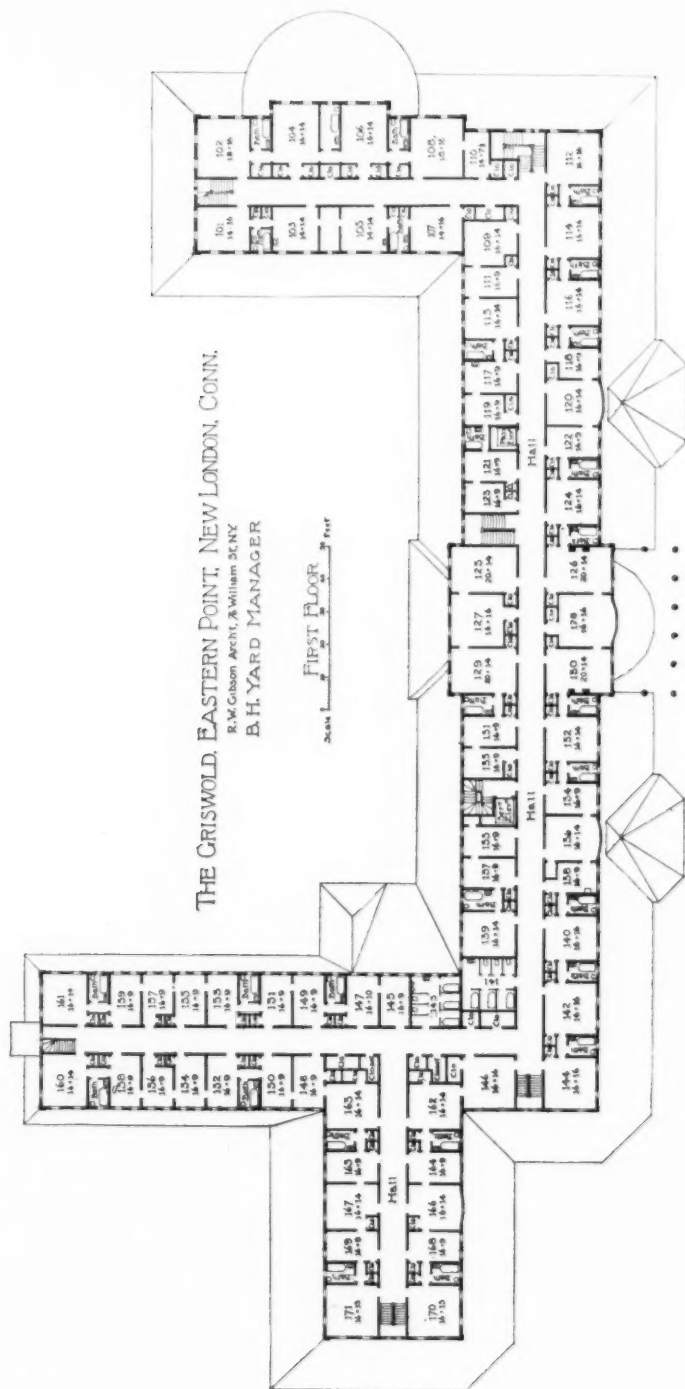
The main stair is in the rotunda, in sight of the office, and of course the principal entrances are there. The whole front, in fact both fronts, are practically glazed colonnades, giving full outdoor views, to water on one side and garden on the other. Two large fireplaces for genuine old-fashioned cheering logs, wait for the wet, chilly days when indoor chairs are in demand.

The elevators are near the office, the service elevator and stair hall communicating with it.

All the main floor is finished with white pillars, columns and cornices in Colonial style of simple, dignified effect, encouraging the luxury of quiet rather than that of ostentation. The dining-room and ballroom are of uniform style except in their color decorations; and with French casements opening down to the floor on both sides, giving access to verandas which will be used in connection with them, they are evidently designed for the outdoor life of the special season.

The motive of each step in the evolution of the plan is thus found in a study of the requirements and surroundings—each department requires contact with some rooms and separation from others; and the easy and economical management of the house and the comfort and happiness of the guests depend upon this being well studied.

Considerable care is well given to the placing of the best rooms. Most hotels have a few rooms considered very choice, and it will be found that these enjoy the best aspect, and are usually at a corner where windows in two directions invite a cross current of air. Now, it is clear that such rooms should not be put near to or over the kitchen, or in any inferior position. The southwest corner invites some of them in this climate, and the middle of the house, where a central block projects, and makes another corner, provides for others. In the present case the architect creates a larger num-



ber than usual of projecting blocks or pavilions, and nearly all the rooms on the south side are practically corner rooms, and they are in the choicest part of the building, and here the bathrooms are almost one to each bedroom, while in other parts of the house they are one to two or three bedrooms. Good clothes closets are also necessary, although it would be absurd to make them so large as to spoil the rooms themselves; good rooms can often be found with two closets, which is specially desirable for rooms furnished for double use.

Equipment calls for consideration even before the plan is settled. Bathrooms are arranged over one another so that the pipes in vertical lines can continue to the roof, and there ventilate; water and steam pipes, and especially power pipes, demand such consideration that they may affect the plan, and thus presently the structure is settled, and we turn to the list of equipment contracts for study in turn separately.

Plumbing for four hundred people is necessarily a large item of cost. It must be simple, so that its use will not be attended with annoying breakdowns, but efficient and sufficient. It is standardized, that is to say with few exceptions every bathroom is like every other, and fittings and fixtures can be replaced and exchanged or repaired "out of stock." All the pipes are exposed, the main pipes are painted white, so that absolute clean renewal of the finish can be made every year, after sterilizing or disinfecting, or any other process has been done. All the traps and branch pipes are kept above the floor, so that no holes are cut through, except for the main risers; and thus much annoying leakage into ceilings beneath is avoided, and all the traps can be readily emptied and dried for the winter. Every bathroom has a stop-cock to shut off water separately for repairs. The fixtures are all porcelain or porcelain enameled iron. Every bathroom is an outside room with perfect daylight and ventilation by a good window; and, finally, the bathroom never communicates directly with a bedroom, but always by a lobby, which affords added hanging space.

The water supply is by three pipe wells sunk down into the rock, affording very good water, which is raised by a large duplex steam pump in the power house into storage in a water tower. The tanks are three in number, so that either one can be cut out, emptied and repaired or cleaned without interrupting service, and, as a further precaution against interruption, any breakdown of the pump is guarded by the arrangement of the elevator pump as an exact twin counterpart of the house pump. If one fails the other can do double duty, running elevators by day and filling the tanks at night, for the time needed to repair and restore the other. And both, or either, can be used for fire service, inside fire hose being connected at different points on every floor. The outside hydrants for fire hose are connected to the public water supply with good pressure.

Heating is provided by steam boilers in an outside independent power house, sixty feet away from the nearest part of the hotel. Steam is carried in a tunnel trench and distributed to all the halls and to many of the rooms, so that in the early and late seasons comfort is secured. Steam is also used largely in the kitchen and laundry.

The lighting of a hotel can be done properly by only one method, namely, incandescent electric lamps. This example is so equipped throughout; current being supplied by the public company, and converted to safe voltage pressure outside the buildings; thence received at a great switchboard in engineer's department, and distributed, in various lines with cutouts and switches on each section. The chandeliers are operated in each room by wall switches near door, and brackets are on separate circuit so that they can be left on all night if needed without main wires being changed.

Electric heaters for curling irons are needed in a modern hotel, to prevent the use of lamps and stoves by guests who must have something of the kind. In the Griswold there are receptacles fitted into the light brackets to which can be connected the flexible wire of a heater

at a moment's notice, and the same connection can be used for a movable table light or a small stove in case of sickness or other need.

Electric telephones to every room have become almost a necessity. They not only give guests greater convenience, but they save much service and use of elevators. Any guest can talk to any other by means of the central station in the office. Public telephones are also provided for long distance communication, and a telegraph office, as usual, is placed near the rotunda.

The telephone bells are all connected in the office to a special system of fire alarm, so that in case of need every bell in the house can be rung at once as a warning or call. The same bells are used separately to call guests desiring to be awakened early.

Another installation, deserving special mention, is the vacuum house-cleaning appliances, which by means of air pumps and pipes with hose attachments and sweeping nozzles suck out dirt and dust, and collect it in receivers, to be disinfected and disposed of in much better fashion than the old broom and dust pan achieved.

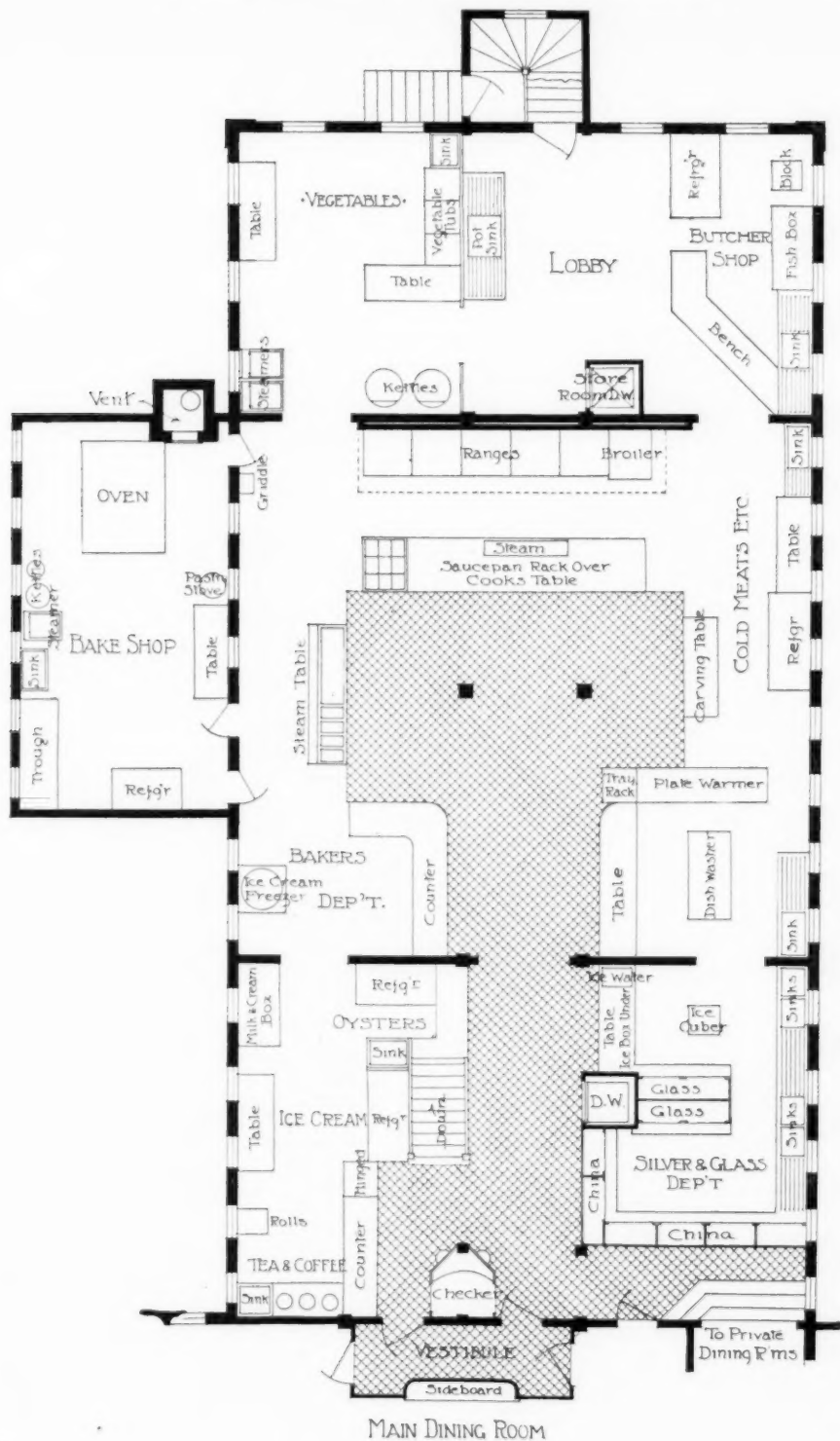
The elevators especially need careful adaptation. The questions about elevators are much involved. Whether they should be electric or hydraulic, whether plunger or overhead supported, high or lower geared, and so on, depends on local conditions. The Griswold has powerful steam pumps, but has no dynamos, therefore hydraulic elevators can be best operated. They can also be most safely put out of commission and carried through the long winter idleness. Beneath this hotel is solid granite rock, therefore the overhead support was preferred to the sunken cylinder. The elevators have up-to-date rapid machines, with the pumps away in the power house, and with large roomy cars.

A description of the cooking apparatus and the kitchen equipment would fill a pamphlet. Built by a firm of specialists, this outfit seeks economy, not in first cost, but in its perfect operation. It is most modern. Steam from the boiler and freezing brine from the ice machine,

water hot and cold, electric current, and air in ducts, serve it with a complexity beyond this opportunity to describe. It must suffice to say that all is in a perfect system. The various departments are placed at both sides and at the end of the large room so as to leave traffic space in the middle. The waiters coming from the dining-rooms pass to the right, leaving the used dishes and taking clean ones and moving in a stream in one direction; without crossing or colliding with the other streams they reach the carving and serving departments each in turn, and pass to the dining-rooms by the checker or inspector at the door. Behind each cooking department is the room for preparation—the butcher shop behind the ranges, bakery behind the bread and pastry, the dishwasher behind the scrap counter and so on.

There is not so much division into little rooms as there used to be. In fact recent practice has erred in the other direction, mixing stoves and refrigerators too intimately in one department. In the Griswold the kitchen is subdivided by screen walls so that some parts are guarded as much as possible against the heat unavoidable in other parts, but these screens are partitions having large openings without doors, which would impede traffic. The order in which the equipment is installed is as follows:

In the serving department, next dining-room, are found on the right glass and silver pantry and sinks and ice-water; on the left, oyster box, counter and sink, bread and cake, tea and coffee, stair to wine room and storerooms, checker's desk at door to dining-room. In the next department the kitchen proper is placed. First, on the right, scrap table and dishwasher, then, in the order named, and disposed in horseshoe form around the room, the dish stack and heater and tray rack, cold meat boxes, butcher shop at back, with refrigerators, etc., cooks' table and "Bain Marie," with ranges behind it; steam table, with behind it the stock and vegetable boilers and vegetable room with refrigerators and sinks, and pot sinks; then pastry department and ice cream



THE KITCHEN AND ITS DEPENDENCIES—HOTEL GRISWOLD.

Eastern Point, New London, Conn.

Robt. W. Gibson, Architect.

freezers, behind which, in separate extension, is the bakery with oven, troughs, hot plates, etc., and this completes the circuit into the serving department with cakes, tea, coffee, etc. Several implements, such as knife polishers, ice cubers, etc., too numerous to mention, are placed where most useful. The kitchen is 90 feet long and 40 feet wide, with bakery extension, and underneath is a similar space divided into storerooms and cold rooms and receiving department, with separate stairs and two large dumbwaiters to supply the kitchen therefrom.

Nearby, in the basement, are four or five dining-rooms for different classes of servants.

The refrigerators are, of course, scattered in various store departments and in the kitchen, etc. They are all cooled by freezing brine, which is circulated from refrigerator machinery in the separate engineer's department. The ice machine also produces block ice for use in other boxes and for cutting up.

As soon as these contracts are settled the laundry must be provided for. For this office there is a building about 70 feet by 36 feet, with dormitories for women over it, all distinct and separate from the hotel, and adjoining the power house, away to the northeast, which is to leeward of the main buildings. These buildings are disposed so as to conceal a large drying yard. The machinery includes engine, washers, starchers, large steam heated mangles, ironers, pressers, drying rooms and the usual equipment for hand work.

The boiler house nearby contains twin-tubular boilers, supplying steam for all the machines and utilizing the exhaust steam for heating when needed.

The specifications for lighting fixtures, office furniture, safes, shades and a few other things complete the work usually grouped with the building contracts.

But before these are done work must be begun on the grading and gardening, plans for terraces and approaches, roads and paths.

The external effect of the building is, of course, enhanced by suitable landscape architecture. The approach to the main entrance is raised upon a terrace formed by an ivy-clad stone wall surmounted by a balustrade with flower vases and statuary, and below it a small fountain plays into a pool of aquatic plants, and a stretch of lawn is enriched with a few gay colored flower beds.

Then attention is given to the removal and planting of trees and laying pipes and drains.

Simultaneously all the interior finishings, the furniture of all kinds, carpets and rugs, pictures and bric-a-brac, library and account books, are cared for by contracts calling for delivery a little before the date of opening. It is interesting to observe how much is possible in modern business, in these methods of anticipation. It is not astonishing that delays occasionally happen, but rather remarkable that they are not more frequent. Here we have a program by which fifteen or twenty important contracts are aggregated and brought to bear upon a certain plot of land, and during one winter season skill and capital in a hundred different places busily produce the innumerable articles, and commit them to freight cars and steamships; and at the appointed time, if circumstances are propitious, and enough impulse has been applied, a machine in working order, more or less perfect, appears and is put into operation, one might almost say comes to life.

Such a complex machine as a modern hotel building produced in the space of time between two seasons is not only an achievement in its own class, it is a demonstration of the splendid organization of American business.



PERSPECTIVE VIEW—ROYAL INSURANCE BUILDING.
Corner of William Street and Maiden Lane, New York. Howells & Stokes, Architects.



The Royal Insurance Building

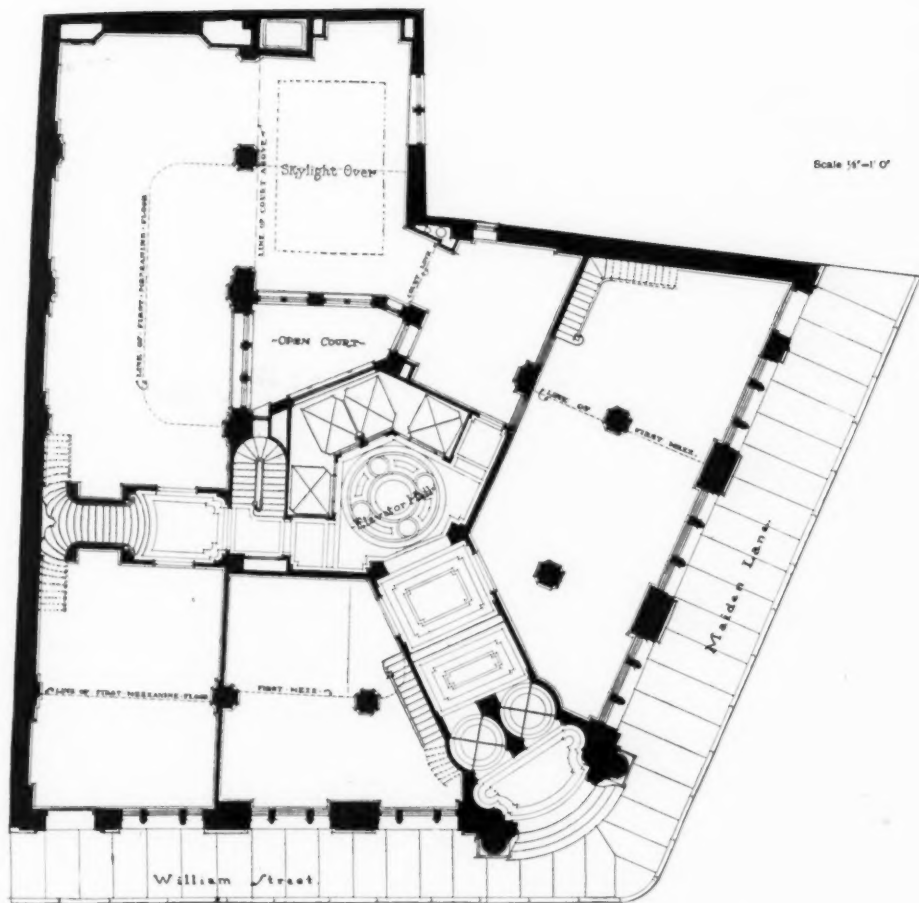
The building that has been designed by Messrs. Howells & Stokes for the Royal Insurance Co., of Liverpool, at the northeast corner of William Street and Maiden Lane, New York City, presents several interesting features both in plan and in elevational treatment. The plan was practically dictated by the exigencies of the site. William Street and Maiden Lane do not cross at right angles; this results in an obtuse angle facing south and west, of which advantage has been taken to not only round off the corner of the building, but to treat the corner as the architectural axis of the composition. On this axis lies the main corridor, which leads into a hexagonal elevator hall, giving a certain interest to the plan. The result is a symmetrical composition, giving nearly equal elevations on William Street and on Maiden Lane. The same architecture, therefore, appears on both streets. The general exterior treatment deserves a passing notice for its attempt to make the color and texture of the materials count as integral parts of the design.

The building is seventeen stories high, not much of a skyscraper as we judge them now, but still a tall building for the area it covers; of this height the lower four stories are treated in Georgia marble, the upper three in light terra cotta,

the fourth story from the top in polychrome terra cotta, and the intervening nine stories in red brick, with marble dust joints, white terra cotta sills, keystones and imposts.

The important feature is the entrance, which it has been attempted to treat as a feature in scale with a seventeen-story building. As has been said before, it is on a curve, and is three stories high. The whole is crowned by a clock, supported by the arms of the Royal Co., the Lion and the Unicorn, with the English Rose and the Scotch Thistle. Under the main cornice, just above the doorway proper, are three cartouches; the center one bearing the date of foundation of the company, the one to the right, the cross and dagger, and the one to the left, the Liver, the bird from which Liverpool was named.

As it was difficult to study in drawings an entrance on a curved plan, a plaster model at a half-inch scale has been made by Messrs. Rochette & Parzini. A photograph of this model appears with this article. The clock dial, which looks almost directly up Maiden Lane, is treated in colored enamels, as are also the arms of the company. Altogether, the building should present an agreeable composition of commercial architecture, enhanced by the use of color in a purely architectural way.



FIRST FLOOR PLAN—ROYAL INSURANCE BUILDING.

Corner of William Street and Maiden Lane, New York.

Howells & Stokes, Architects.



DETAIL OF THE ENTRANCE—ROYAL INSURANCE BUILDING.

(From model by Rochette & Parzini.)

Corner of William Street and Maiden Lane, New York.

Howells & Stokes, Architects.

Opening the Center of Denver

Invited by the Art Commission of the City and County of Denver to visit that city and consider plans for its beautification, I found existing a very interesting opportunity for the creation of a central scheme of improvement. If carried out, it will give to Denver an esplanade of such architectural and decorative possibilities, and in such close connection with the business district, as to make it, I believe, second only to the "Cleveland Plan." Its cost would be considerably less than the latter's, and in its completeness—not likely to be realized at once—it connects the park system with the very heart of the city. The link which does this is that upon which action will probably be deferred for some years, as it can be with no excessive danger; but if the rest of the plan is carried out, the artistic obviousness of this, added to its utilitarian value, seems likely before many years to create a popular demand for the scheme's completion. In the East this might appear extreme optimism; but Denver is full of faith in itself, of ambition and of enterprise. It wants to be—as it can be, as it would pay it to be, and as, happily, it can now afford to make itself—one of the beautiful cities of the world.

Yet the plan, simply as it works out, was not directly obvious, and required considerable thought. The State Capitol, an outwardly imposing structure with a dominating dome, is commandingly situated on a site of superb natural attraction, overlooking the older and business sections of the city, and offering a panorama of two hundred miles of Rocky Mountains. Unfortunately, however, it is placed at an angle with all the business part of Denver. The streets of the latter, which is in the original Congressional Grant Tract, approach at a sharp angle the perfectly regular checkerboard plotting, in which is situated the parallelogram that makes the little Capitol park. This abuts on a hundred foot street, Broadway, which is a boundary of the Congressional Grant. Thus, standing on the Capitol

terrace, one sees directly beneath him an old residential part of Denver; and then turning half to the right, he sees the tall buildings of the business section. Towering among them at no great distance, and with only low buildings intervening—two-story structures, stables, and some vacant land—rise the high shoulders and dome of the County Court House, harmonizing not badly with the Capitol itself, though the two are screened from each other except from this one vantage point. Prowling now among adjacent streets, one finds the new and chaste little Mint on the first rectangular street dividing the Congressional Grant Tract from the old residential section, and facing toward the business district. With a block between, but on the same side of this same street, and only the second block from Broadway, is rising the new and very beautiful Public Library. To bring the Capitol into relation with the business district of the city, this being adjacent, and to establish some sort of connection between these various near-by public buildings that would further dignify the Capitol and emphasize the city's recognition of an obligation as the capital of the state—these were the problems that at once presented themselves as the most important to be solved.

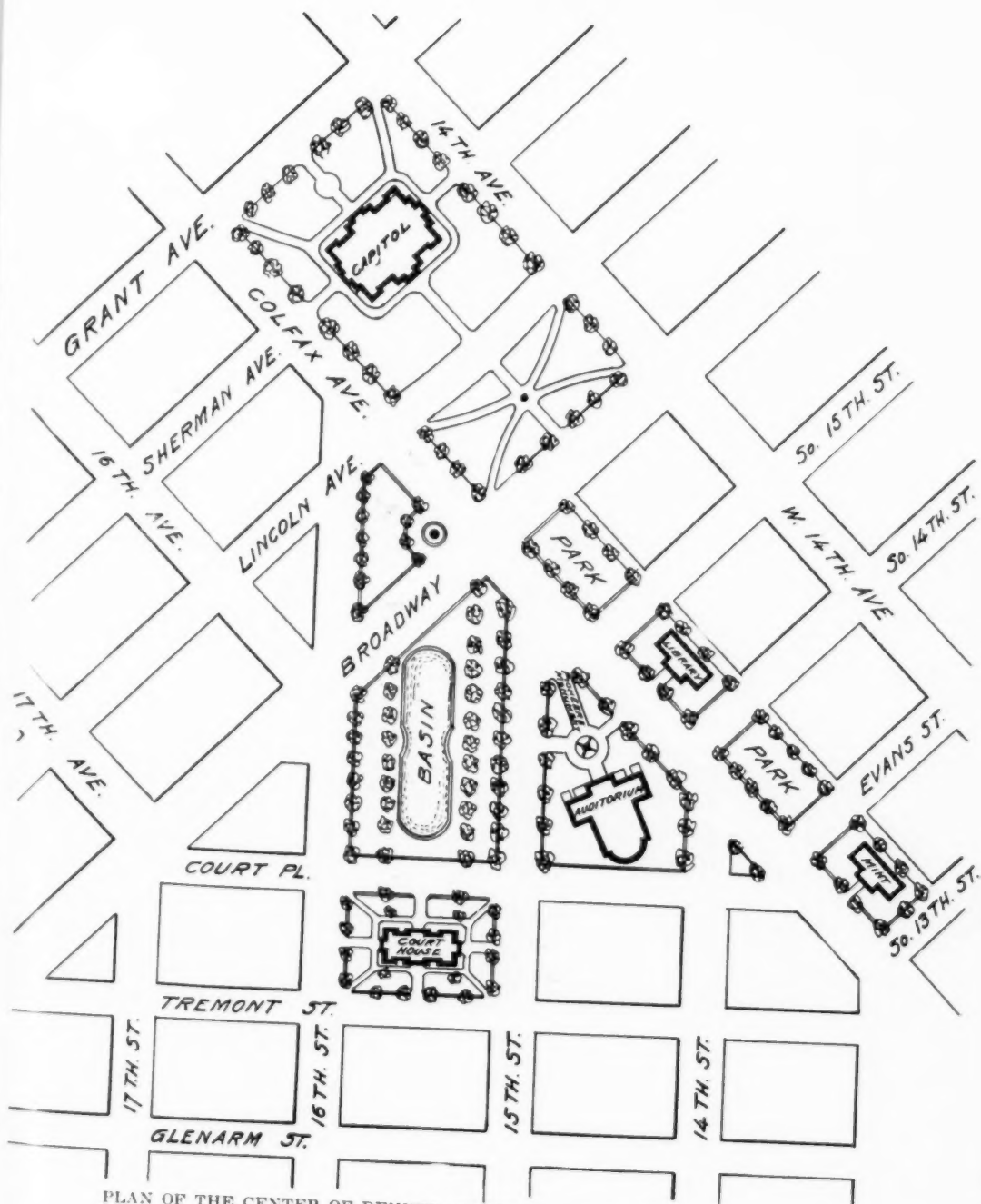
The suggested plan contemplates the extension of Sixteenth Street, now terminating at Broadway, to the Capitol grounds, centering on the dome of the Capitol and opening a fine vista of that on the most important business street of the city; the purchase of the land lying between Fifteenth and Sixteenth Streets and the Capitol and Court House, and its clearance; the purchase of the triangular pieces lying between this reservation and the Library and Mint; the purchase of the small strips between Mint and Library, and Library and Capitol park; and then, eventually, the cutting through of a parkway, to run diagonally from the Capitol grounds to Congress Park—the principal scenic park of the city—opening midway the very beautiful Protestant cathedral that

is about to be erected on an utterly commonplace lot, as far as its civic consequence goes. The whole distance would be little—writing without a map and with no figures, I should say not more than half a mile—and all through that region every vacant corner lot is crossed by a well-traveled diagonal path—in mute but eloquent appeal for such diagonal “short cut.” The space cleared between Fifteenth and Sixteenth Streets and the Capitol and Court House is 400 feet in width. The plan is to carry through the streets at their present width, marking the inner street line by a row of trees; to plant on either side of the middle strip an inner line of trees that shall be at the building line of the Court House, so that the vista shall exactly frame that structure, while the esplanade will be furnished thus with a pleasant shaded walk on each side. On the side of Broadway nearest the Capitol, there will be a triangular piece of ground, left by the extension of Sixteenth Street. Here I suggested a circular basin with one or more jets of water; this water then to be carried by pipe under Broadway, and used to fill an oblong pool, or basin, that would occupy the major part of the space between the inner row of trees, and extend almost to the Court House—which would be reflected in it. The details of the plan work out nicely, considerably enhancing its effectiveness, though the mere presence of water in itself would prove a novel and peculiarly attractive feature in Denver. On the reserved triangle lying between this esplanade and the Mint, and placed at such an angle as to suggest an arc, so harmonizing the antithetical positions of Mint and Court House, I recommended the placing of the new Auditorium, with its Chamber of Commerce front, upon which work is about to begin. In front of it, on the axes of this

structure, of the Library and of the park scheme, there was offered a very effective site for the Pioneers Monument, for which \$60,000 had been raised, and which it had been planned to place half a block away, where it would have been on the axis of nothing. This in rough outline was the plan.

It is estimated that the land alone will cost not less than \$3,000,000, and though Denver is abundantly able to expend this sum for a worthy result, the Report and recommendation made a considerable stir. After the first rush of this, two of the newspapers opened their columns for discussion pro and con, and for two weeks a couple of columns of letters were published every day. At the end of that time it was said that many scores of letters still remained unpublished. The Report was submitted January 19th, and on February 8th a dinner was held under the auspices of the Real Estate Exchange at the Brown Palace Hotel to consider the project. Some four hundred were in attendance—the maximum capacity of the room—and the applications for seats far exceeded that. The gathering was described as the most representative in the city's history. The Mayor made an excellent speech, presenting the financial aspect of the matter and a plan for meeting the expenditure. Speeches were made by other prominent men, including an admirable presentation of the question's civic aspect by the President of the Art Commission—Henry Read. Enthusiasm rose to a high pitch. The Mayor's plan contemplates the issuance of fifty-year bonds, and for this there is required a revision of the charter, which now restricts the city to short term issues. The matter thus waits upon the outcome of the charter election, and the plan, if carried through, will be at popular behest.

C. M. R.



PLAN OF THE CENTER OF DENVER, SHOWING THE PROPOSED IMPROVEMENTS.



FIG. 1. CHICAGO TELEPHONE COMPANY'S BUILDING.

Chicago, Ill.

Pond & Pond, Architects.

Factories and Warehouses

The interesting subject of factory buildings includes more than factories alone — more than “factories” and “warehouses” taken together. It includes, for logically it must include, all those buildings which are to be characterized as follows:

They are (1) obviously utilitarian, with but little evidence of money spent on ornament of any sort, and with (2) no trace of money spent in making the plan of the exterior traditionally architectural at the expense of every-day use. They must be, therefore, separated from any and all of the recognized historical styles of architecture; and this is the cause of the deep interest they are capable of exciting. If (3) they require modern devices in building, those must be used boldly, simply and without disguise.

These considerations seem to be well represented in the buildings we have discussed in these columns under the general head of Factories and Warehouses; but almost never are they all met in the same design. Almost always is there avoidance of the third requirement, at least. Almost never is a wholly modern method of building acknowledged to be used “for all that it is worth.”

In the Chicago Telephone Building, Figs. 1 and 2, the second requirement seems to have been ignored to a great extent. Unfortunately, too, the putting in of those seventeenth century “bands” around the square uprights which enclose the door-piece, and the crowning of them with very aggressive consoles, which are used as if they were capitals to crown the projecting piers, and also as supports to carry a projecting door-head much too light and thin to need them, all are to be regretted. No one, not even the designer of such a building, would call them beautiful or even attractive in themselves—those elements of design are not accepted as beautiful in themselves, as a piece of floral sculp-

ture is, or a Greek anthemion; they are accepted only as parts of an admired style. But, by our second requirement, the whole, and also the parts of a historical style, are forbidden to warehouse and factory design.

Fig. 2 shows this doorway on a large scale, from a good point of view. Seen in this way, close at hand, it is always interesting to follow up a piece of careful building carried out with deliberate intent. You cannot spoil a good square-edged piece of brick and stone masonry altogether! If you go near it and see how it is made, you are bound to be interested, provided you have a soul in you for that kind of solid and tangible thing. He is no true student of architecture who does not love bricks and stones for themselves—for their weight, their permanent squareness, their sharp-edged and flat-bedded quality. And, moreover, the warehouse-and-factory way of design is peculiarly susceptible of this means of expression. But to have the stone binders projecting three inches or thereabouts from the brick pier, providing a score of sharp corners against which you may strike your knee or your elbow, and this for no added purpose of solid verity, but merely to affect a decadent style of neo-classic architecture, seems a pity. The consoles, I suppose, cannot be explained at all.

Fig. 1, however, shows the whole building together, and this is as attractive as so plain a building is likely to be in our period of ungracefulness in design. A building may be good and permanently interesting without grace; and that is fortunate for us, because grace is about the last thing which the twentieth century can get. It is only the constant student of nature, the man who draws or models all day as a student of Life who has any knowledge of grace. The decorative designer as such has had it cut off from him by two centuries of deterioration.



FIG. 2. THE DOORWAY—CHICAGO TELEPHONE COMPANY'S BUILDING.
Chicago, Ill.

Pond & Pond, Architects.

One detail must be mentioned because we may praise that while we deprecate its close likeness in the door-piece, Fig. 2. That detail is found in the seven upright members which probably a French designer would call *chainages*, three of which form strings of quoins at the corners of the building, while two of the remainder ease off the slighter corners at the recess in the middle of the front, and the other two are merely echoes of the systems of quoins. These seven uprights are composed of nothing but brick racking, the course of brick projecting an inch beyond the face of the wall; in each course, $4\frac{1}{2}$ lengths of brick—36 inches—and 37 of these projecting courses in the height of the wall, alternating with 52 courses which remain flush with the wall, and three courses more. These three form the one exception to this uniform system; at the lin-

tel-course of white stone above the first tier of windows, the corresponding courses of brick are all three in projection, making an effective prolongation of the stone band. The way in which this small detail has been conceived, and has been used to express the thought that this lintel-course must be continuous, is worth a great many dollars worth of the common architectural adornment of the day.

It remains to be said, perhaps, that our first consideration stated above, has been fully met; the exterior design expresses a careful arrangement and ample lighting, a perfectly well organized service building.

Warehouse and factory architecture finds another interesting exposition in the new building by Hill & Woltersdorf, at the corner of Indiana Avenue and Eighteenth Street, in Chicago, Fig. 3.



FIG. 3. BUILDING OF THE EASTMAN KODAK COMPANY.
Indiana Avenue and 18th Street, Chicago, Ill. Hill & Woltersdorf, Architects.



FIG. 4. THE DOUBLE CORNER ENTRANCE—BUILDING OF THE EASTMAN KODAK COMPANY
Indiana Avenue and 18th Street, Chicago, Ill. Hill & Woltersdorf, Architects.



FIG. 5. THE INDIANA AVENUE ENTRANCE TO PASSENGER ELEVATORS AND PUBLIC STAIRS—BUILDING OF THE EASTMAN KODAK COMPANY.

Indiana Avenue and 18th Street, Chicago, Ill.

Hill & Woltersdorf, Architects.



FIG. 6. THE SERVICE ENTRANCE ON 18TH STREET—BUILDING OF THE EASTMAN KODAK COMPANY.

Indiana Avenue and 18th Street, Chicago, Ill.

Hill & Woltersdorf, Architects.

This contains the workshop and the offices of the Eastman Kodak Company, and with these a corner store with large plate glass windows and showy door-pieces, which is to be occupied, we are told, by a retail business in photographic supplies. The difference between the workshop and the office may be known, perhaps, by the larger and smaller lights of glass; and we note at once willingness on the part of the designer to give to the shop front that decorative treatment which the factory and its entrances do not call for, and with this a wonderfully sensitive feeling is manifested for the how much and how little—for the exact amount of adornment which such a shop-front in such a building could be expected to bear. That door-piece is shown in Fig. 4. This detail, I repeat, calls for warm praise—a note in criticism which we have rare occasion to sound. To be able to say of a thing of this kind that it is hard to see how it could be bettered, is to give the largest and most decorative gold medal which the critic has it in his power to bestow.

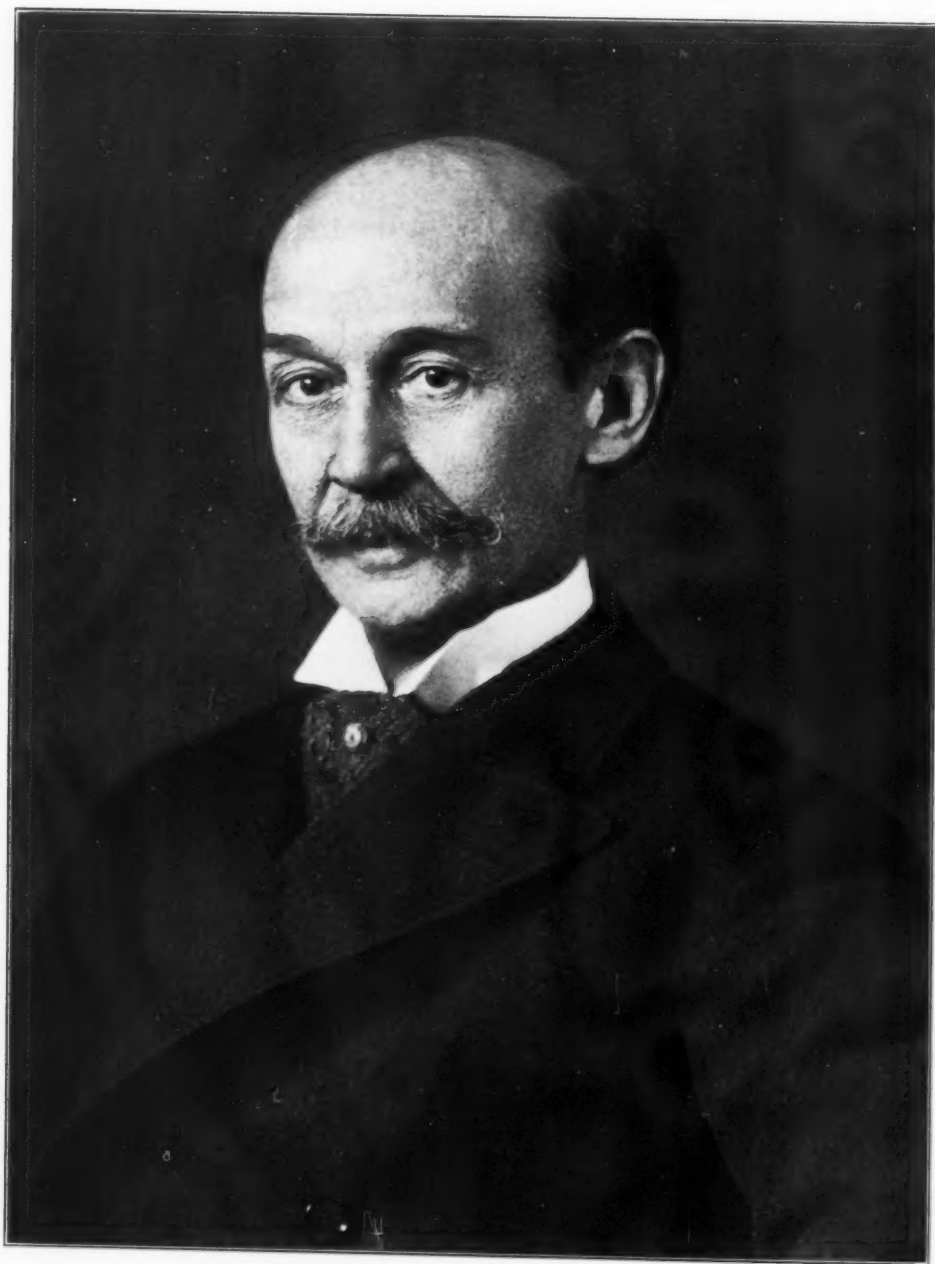
These remarks all imply that a factory building should be plain—and this one is plain—quite devoid of elaborate ornamentation. The corbeling out of the cornice with several systems of setting of square bricks ingeniously combined explains itself; but the slightly varied band in the face of the projecting

wall-piece above the recesses for the windows cannot be made out in the photograph, even with a Stanhope lens. We must accept it as a minute piece of delicate brick-laying with a pleasantly mottled surface. The blocking course or parapet above the cornice is an effective termination to the building, explaining and concealing at once a roof almost flat.

Two other doorways of this building are shown in Figs. 5 and 6. There seems no special need of commenting upon them except to say that the door, Fig. 5, has a fortunate general arrangement, with most unattractive details in relief, and that one would rather have seen them both alike and both simpler. The entrance on the extreme right is the driveway to the shipping court, and the architects state that the huge, broad lintel spanning this is a steel girder which rests upon a steel corner column, although the girder and the corner post as well are furred and plastered with cement, thereby securing a more architectural appearance as well as protection from fire. It is bitterly to be regretted that we are not allowed to show our iron structural elements. It is greatly to be feared that, so long as we are compelled to cover them up to the absolute concealment of their form, buildings in which metal enters as of important constructive importance can never become interesting as architecture.

Russell Sturgis.





HENRY JANEWAY HARDENBERGH.

A Conversation with Henry Janeway Hardenbergh

A quiet interior, a harmony of deep reds and browns, frugal but elegant equipment and a subdued light effect, this was the first impression I received. Then out of the window a glimpse of the colossal Waldorf-Astoria, one of the architect's most notable achievements. The architect himself, Napoleonic in stature, but of wiry build, with a shrewd, worldly-wise expression in his eyes, at his office desk on an elevated platform that runs along the window, and I on a leather chair below, which obliged me to look up to him.

The first moments in contact with a new personality are always decisive with me, and, in this instance, I had not only to reckon with the personality of the architect, but also a sample of interior decoration, and a successful specimen of his work to judge from. It was like hearing a pianist play the theme of the variations which he is going to perform. "This man knows what he is about," I thought to myself; "I am sure he deserves the reputation he has of *having a roof on every house he builds*."

We at once settled down to serious business, to an interview, one of those old-fashioned, matter-of-fact interviews that have really taken place, and are in no way masked with inadequate ornamentation.

"I believe you studied with one of the old New York architects, Detlef Lienau by name?" was my first turn of the key.

"Yes, he was a remarkable man for his time," and Mr. Hardenbergh's face was lit up for a moment as with pleasant recollection. "Of course, building—I entered Lienau's office in '63—had not yet reached such dimensions in New York, as it did in the following decades. But he did good, solid work, notably in the French Renaissance. I do not remember at this moment all he did. One of the best specimens is that old residential dwelling, Tenth Street and Fifth Avenue."

"You never studied abroad?"

"No, I never got to Europe until after quite a number of years of active practice."

"Then your case seems to prove that a man can become an architect without studying abroad?"

"Emphatically, yes," he exclaimed with peculiar emphasis, that did not solely betray conviction, but also pride in what he himself had accomplished. "It only depends on how one studies. For that matter, one could live at the seashore, and become a good architect. Of course, there were drawbacks; books and photographs were scarce at that time. The facilities for reproductions were still slight. I remember how delighted I was when I got my first collection of Parisian buildings; I thought it a rare treasure."

"But are you not of the opinion that there are too many publications nowadays?"

"Decidedly so. The young men rely too much on their assistance. They go from one book to the other, and get a little bit here, and a little bit there; but do not understand how to put them together."

"I suppose you served a real German apprenticeship at Lienau's?"

"Yes, it was a true apprenticeship. Conditions were different. He had never more than six men in his office. He could really devote some time to them. Now, many offices have forty to fifty men on their pay-roll."

"I know of one firm which, several years ago, had as many as ninety-three draftsmen in their employ. This, I suppose, makes personal instruction impossible in these days?" I interpolated.

"Absolutely! I have not more than ten minutes a day to give to the younger men—but they learn from the older draftsmen," he said, after some reflection. "Yet without arrogance, only with due respect to my way of doing things, I can say that I have done my work with a

smaller clerical force than most offices. If you have too large a force, you have to depend too much on other men. You lose touch with your own work. The individuality of one's style is apt to suffer thereby."

"You are particularly interested in municipal art?"

"Yes, I was one of the founders of the Municipal Art Society."

"And if I am not mistaken, you individually have also helped matters along on that line?"

"Yes, I have always regarded mural decoration a part of architecture, and always tried to persuade my clients that there was a necessity for such a thing. At the Waldorf-Astoria we simply gave out the work. I had made up my mind to have Blashfield, and insisted until I got him. At the Manhattan, in order to avoid what might look like favoritism, I managed to arrange a competition with a thousand dollars in prizes. Five artists competed."

"How did the painters adapt themselves to the work?"

"Of course, it was a new experiment with them. They all 'paint' a trifle too much. They do not seem to be able to adapt themselves to their environment, to any particular style. There are hardly any of them who understand ornament. Simmons seems to get nearer to the real thing than any of them. And even he is still too much of an easel painter. Look, for instance, at this little panel," and he pointed to a canvas by Shean, over the mantelpiece, representing "The Architect and His Client," in mediaeval costume and surroundings. "It is very nice, well painted, but hardly mural in feeling."

"You seem to have made a specialty of hotels?" I asked, remembering that we owe to this architect the popular structures of the Waldorf-Astoria, the Manhattan, the Dakota, and others.

"Yes, it seems to have been my fatality that things have come that way. I have built a large number of them. But I have also done a good deal in apartment houses, and lately in office buildings. To show you how eclectic an architect really has to be: One of my first commissions

was a Gothic chapel for Rutgers College, in New Brunswick, my native town. Soon after came a row of Ohio limestone dwellings. About the same time I constructed a Turkish bath in the private house of a gentleman. It was done all in the Pompeian style. I had the entrée to the Neo-Grec through Lienau. Lienau was a pupil of Labrouste, the architect of the St. Geneviève Library, in Paris, and the Hospital at Lausanne, who effected a successful combination of the modern French and Neo-Grec. You will notice in all the works of the French architect a certain simplicity and severity of detail."

Labrouste was one of the first who succeeded in the employment of modern building materials, thoroughly in accordance with beautiful form and original ideas. Through Lienau his skill and cultivated taste has descended upon Hardenbergh, who thereby was prepared to avoid the reefs on which so many of our modern architects have suffered shipwreck. My remarks gave Mr. Hardenbergh an opportunity to express his views on the modern French.

"I have always been charged, though unjustly, of being opposed to the modern French. This objection applies only to later work in the style. They can't go much further. It is all for sensational effect, and will end in sheer brutality. Their ornaments," and he made a descriptive gesture, "are crude and clumsy. There would be no objection if they would stick to the fine examples of the past, but this way——"

"Do you think the New York architects set the taste for the whole country?"

"I think so. When Richardson had built his Trinity Church, you saw bad Richardsons cropping up all over the country. For instance, in Chicago, it was simply awful. Of course, we all do incongruous things in our time. They lately tore down a building of mine, of which I felt very proud at the time it was built; but I was really delighted when it was gone."

"Do you think we will arrive at more uniformity of style?"

"Possibly," he remarked rather drily.

"Conditions and needs will bring it about. But elements of new formations must necessarily be based on reminiscences of those already existing."

"And at present these reminiscences seem to be all modern French," I insinuated.

"Not entirely; the classic movement is very strong. Nearly everything that some of our leading architects build of late has the characteristic columns and the tympanum on top. I myself am very fond of the German Renaissance. Not when it was loud, overloaded with ornaments, but modified. I also have a liking for the Dutch Renaissance," and he showed me a sketch of the New York Club. In its elegant simplicity it reminded me slightly of the building of the Fine Arts Society, which I consider one of Hardenbergh's masterpieces.

"Yes, that was really a work of love," he explained. "If it only could have been placed differently. The apartment house next to it spoils much of the effect. The model for it was a Francois I., in the Court de la Reine, Paris. I only saw it two years ago, long after the New York building was finished. I had been in Paris before, but had missed it. And when I at last made it my object to see it, I was highly delighted."

"How is it with more utilitarian buildings? Do not the difficulties of the internal arrangement take so much thought and time, that there is comparatively little left for the consideration of the art element?"

"Not in the least," he said most decisively. "You see, the laying out of the plans of lighting, heating, etc., one has, after all, to leave largely to the engineers. No man can do that all by himself."

"You try to make the interior correspond as much as possible with the outside; it seems to me that the latter is often merely a shell."

"Yes, that is a fault that I find with many buildings. But I always try to bring everything into a certain harmony. Of course, in a hotel all tastes have to be satisfied, and one must know pretty well how the space is going to be utilized before one can realize the artistic vision of the outward appearance of a building.

The architect has to deal with three factors, all of equal importance, first, the artistic element; second, construction, and third, interior decoration. It is just as in music, a certain *Leitmotif* should run through everything. Otherwise, it would be merely a collection of miscellaneous details, as you have correctly said, a husk, a shell. The trouble is, that we are always in such a hurry in this country. At times, this may prove a stimulant. One simply has to go work and do it. But if it comes to details of ornamentation, or interior decoration, it is deplorable. The outside of a building should always indicate what is inside. Look, for instance, at those big windows over there," and he pointed at the Waldorf-Astoria as an object lesson. "You feel that there is a big assembly hall behind them, and so it is with everything. The windows of the various parlors are still large in comparison with those of the ordinary rooms, but much smaller than those of the ballroom."

This emphasized a trite architectural truth, that the outside forms must be characteristic of the aim and object of the interiors, which they hide from view.

"How do you think our architecture compares with the European; do you think we have as much claim to originality?"

"I am certain of it. And that is said without any conceit or partiality. In England they are not handicapped by space, as we are here, and they have quite a number of beautiful buildings to their credit; but they are not more frequent than on this side. L'Art Nouveau in France was a failure. The rest is entirely under the influence of the modern French. In Italy they live largely on classic traditions."

"Have you been at Cologne? There they seem to have produced a great variety of forms."

"Yes, but that is Belgian influence. The Dutch Renaissance is very adequate."

"It always seemed to me that the new Court House in Brussels is a very fine specimen of modern architecture."

"Very impressive. The combination

of Assyrian and classic styles shows very much ingenuity; but one can hardly call it good architecture. No, I think we are fully awake over here. And in the specialty of residential houses, of office buildings, and hotels, I think we have accomplished what nobody else has done. We have adapted ourselves to new conditions, both esthetically and in accordance with style."

Our chat, excepting a few telephone interruptions, had run on smoothly. To every ten words I had uttered, Mr. Hardenbergh had, at least, two hundred to his credit. Getting ready to leave, I remarked:

"Have you any special method in following out your theories?"

"My method is really a very simple one. There, for instance, is a sketch of the new Plaza Hotel," and he showed me a sketch of that giant caravansery. There seems to be a striking tendency in this latest of his work, to abandon the picturesqueness and irregularity of his former style, and to arrive at a simpler, and at the same time more pleasing effect. I had involuntarily to smile, however, at what seemed to me interminable rows of windows. He guessed my thought: "None of them is unnecessary. Now, what would be the use of introducing columns, colonnades, as they do. The Greek didn't build buildings of this kind. Edifices of this order have been unknown to past generations. They have no proto-

types. All one can do is to take some good model, that served some kind of purpose as a hotel, and enlarge upon it. And then embellish it as well as one can, as for instance, in this case, with the early French Renaissance."

After I left, my first thought recurred to me: He well earns his reputation of never building a house without a roof. I had not been mistaken in my first judgment of him.

For here we have an architect who avoids everything that savors of pretence and unreality. Whatever forms he gives us represent the thing which they really are, and the intentions they express are existent. He gives us the reciprocal relation of the spaces of the interior and the form of the exterior. This is visibly permanent everywhere throughout his structures, and pervades all his work. He offers a further contribution towards a pleasing effect by bringing the various modes of interior decoration into conformity with the construction.

Only by this method, I believe, will we arrive at a period of architectural expression in accordance with our age. And I am convinced that men like Henry Jane-way Hardenbergh, in their more utilitarian speciality of apartment houses, office buildings and hotels—which are undoubtedly an improvement upon the old—will materially help to give us buildings of a completer and more harmonious order.

Sadakichi Hartmann.



The Pynchon House

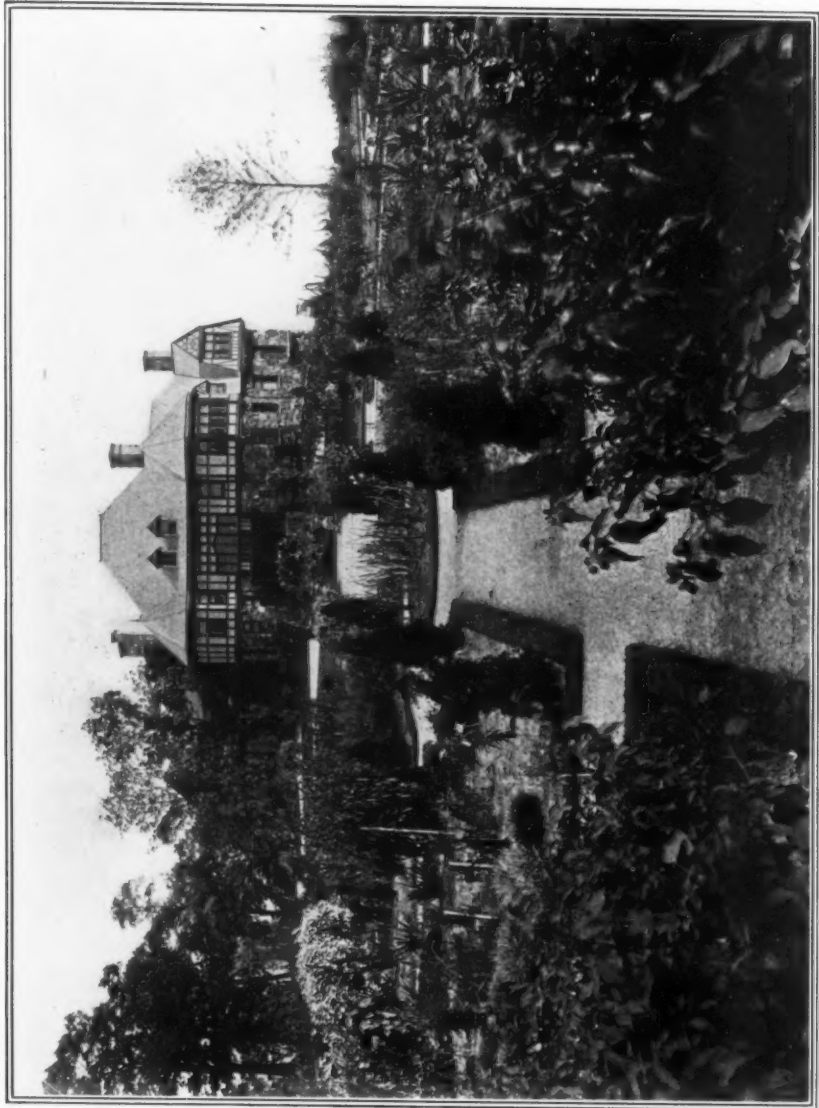
That a house cannot be effective architecturally, no matter how good its architectural forms and composition may be, without an appropriate setting, or perhaps it would be more correct to say that the effectiveness of a house depends upon how it harmonizes with the site, is well illustrated by the two exterior views here shown of the Pynchon house at Greenwich, Conn. Here the architect had a double difficulty to contend with; the house must look appropriate both from the grounds, with their trees and level formal garden, and from the water, which shows the house set upon an eminence richly covered with grass, with a rustic sea wall and picturesque rocks at the water's edge. After due consideration, the architect has decided to make the land view the governing consideration. He has accordingly adopted English half-timbered architecture, giving way, however, to a picturesque treatment of rough stone on the ground floor, contrasted with a rather formal roof treatment. The scheme is agreeably managed, not forced, as might have been expected, from too great a contrast between the conflicting issues.

The plan at first glance presents a rambling mass composed of rectangles, ovals and octagons, ingeniously fitted together, but not carefully composed; on closer inspection, the different parts show a certain directness of purpose and a symmetry which we did not at first notice. The principal rooms group themselves very neatly around the corners of the central octagonal hall, and in such a way that a spectator standing in the center of the hall could command a view into all of them. The strongest criticism that might be made of the plan, from an artist's point of view, is the unexplained and rather indefinite ending of the masonry at the south porch and loggia on the rear; it is a gap in the organism of the plan that is inadequately filled up by the light posts of the loggia. On the

exterior this is noticeable on the first floor only; the light woodwork of the upper floor bridges over the interval in a perfectly agreeable way. The service wing is effectively isolated from the main mass, and is treated in brick on the first floor to distinguish it from the main part of the house. It is in convenient communication with the dining-room, yet the servant answering the door bell must pass through the dining-room, which would seem undesirable in a house of this size. Another noticeable feature of the plan is the number of fireplaces; there is one in every room, making an interesting point in the interior decoration, as well as providing additional comfort to the occupants during inclement seasons. The chimneys count well in the general silhouette, which would perhaps be a little uninteresting without them. The view from the water shows the stable, which, though not very near it, has the admirable quality of seeming to belong to the house.

The central feature of the plan, the main hall, is carried up as the dominant mass of the composition, and is flanked on the garden front on right and left respectively by the reception room and the den in octagonal towers of equal height, but not of equal size, a difference which would appear irrational. One cannot help but feel also that the two little dormers over the main porch would have been more effective if they had been either coupled or placed farther apart. From the water the house presents the central mass with the dining-room next the servants' wing on the right, and the living room on the left projecting out at right angles to each other. The south porch forms an interesting feature, as well as a fine view point, and is valuable as a spot for cool summer breezes.

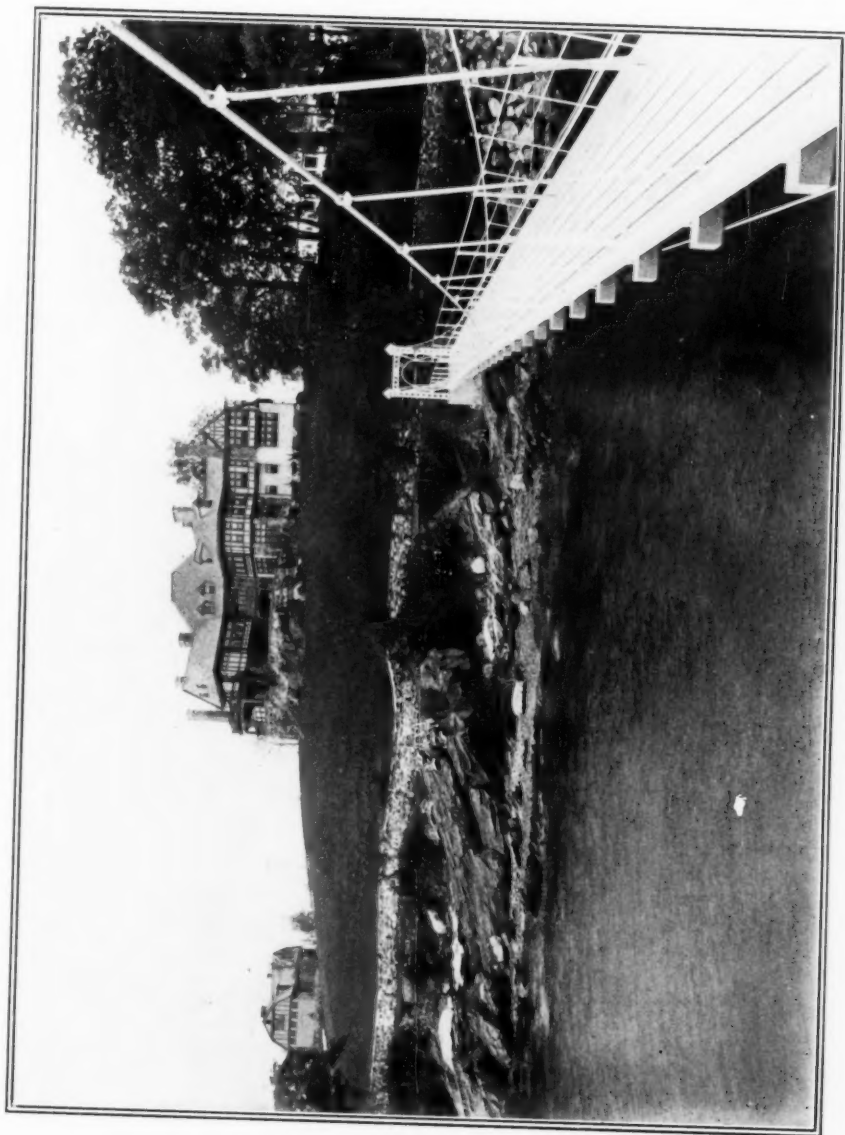
The entrance and staircase are treated in a light and graceful Colonial, quite different from what we should naturally expect from the exterior architecture,



THE GARDEN FRONT—PYNCHON HOUSE.
(Photo. A. Patzig.)

Joseph H. Taft, Architect.

Greenwich, Conn.



THE PYNCHON HOUSE FROM THE WATER.
(Photo. A. Patzig.)

Greenwich, Conn.

Joseph H. Taft, Architect.



THE DINING ROOM—PYNCHON HOUSE.
(Photo. A. Patzig.)

Greenwich, Conn.

Joseph H. Taft, Architect.



THE LIVING-HALL AND STAIRCASE—PYNCHON HOUSE.

Greenwich, Conn.

(Photo. A. Patzig.)

Joseph H. Taft, Architect.



A COSY LIBRARY—PYNCHON HOUSE.
(Photo. A. Patzig.)

Greenwich, Conn.

Joseph H. Taft, Architect.

yet pleasing withal. The other interior views show the dining-room seen from the main hall and a rather cosy library; the only features of interest are the Colonial mantel and the paneled wainscot and a general simplicity of treatment.

On the whole, the house presents a fair example of the better class of suburban country homes, that are perhaps

not brilliant architecturally, but distinctly American, embodying and expressing one of the most attractive phases of our national life. In solving its problems the architect does not need to make archaeological research; he may go to work with a perfectly open mind, with only his clients' wants and his own ability and taste to guide him to the result.

H. W. Frohne.



THE MORGAN LIBRARY AND ART MUSEUM.

36th Street, between Park and Madison Avenues, New York.

McKim, Mead & White, Architects.



GENERAL VIEW.—THE MORGAN LIBRARY AND ART MUSEUM.
36th Street, between Park and Madison Avenues, New York.

McKim, Mead & White, Architects.

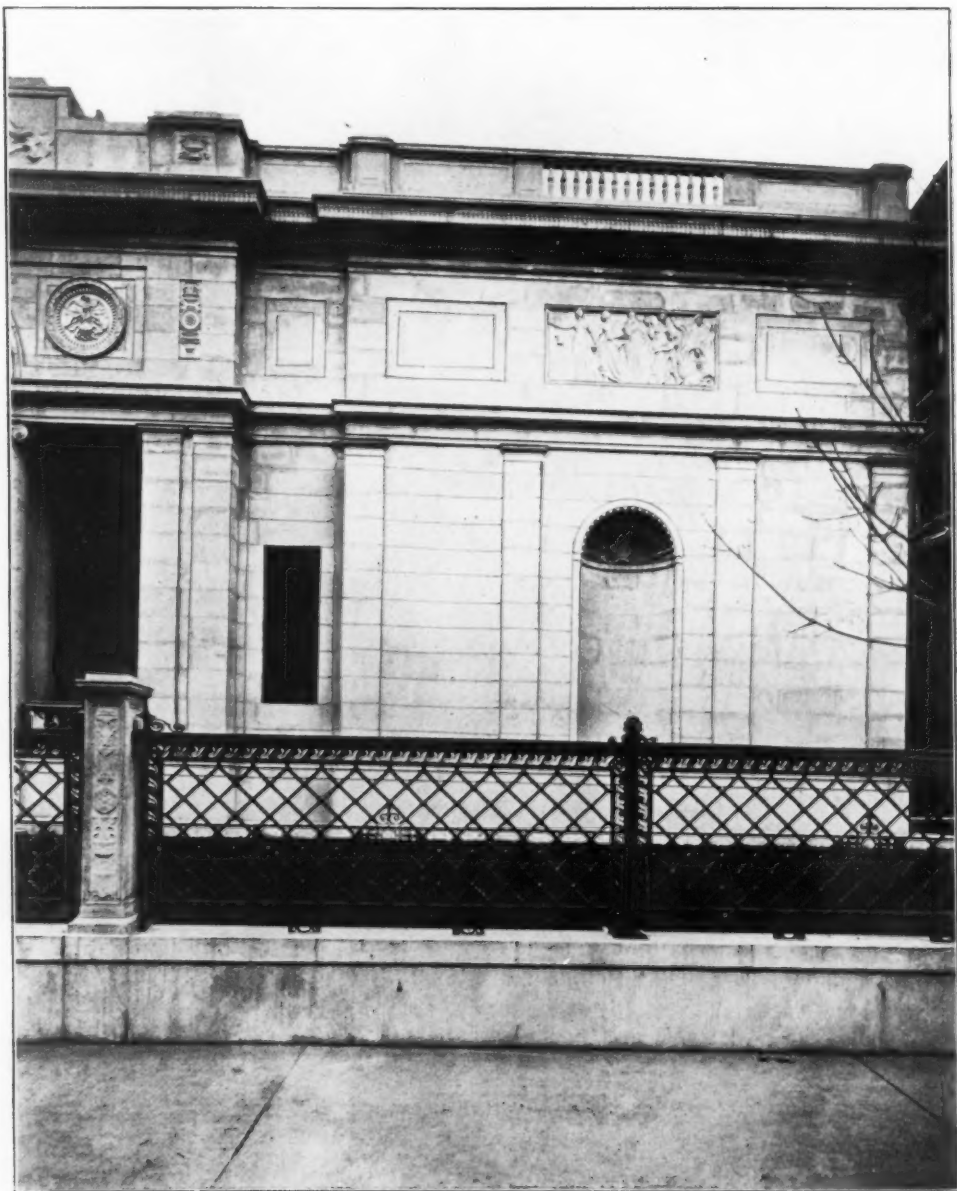


ENTRANCE LOGGIA—THE MORGAN LIBRARY AND ART MUSEUM.
36th Street, between Park and Madison Avenues, New York. McKim, Mead & White, Architects.



A NEARER VIEW OF LOGGIA, SHOWING LIONS AND VAULTED CEILING.
THE MORGAN LIBRARY AND ART MUSEUM.

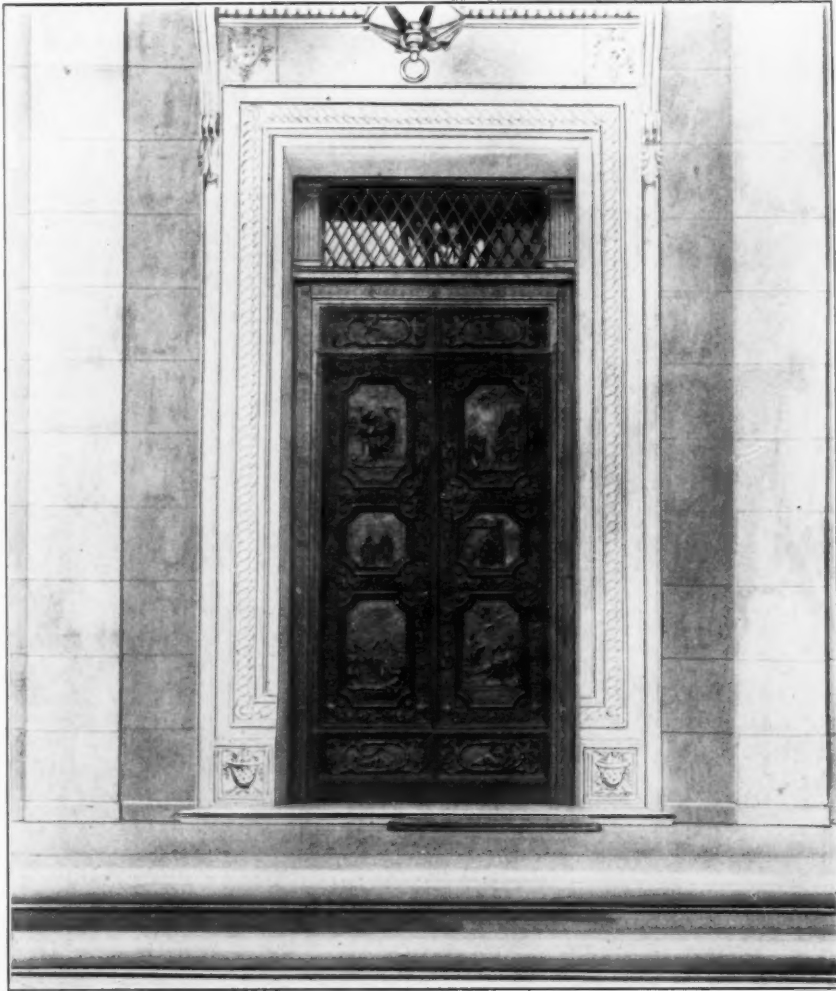
36th Street, between Park and Madison Avenues, New York. McKim, Mead & White, Architects.



EAST WING—THE MORGAN LIBRARY AND ART MUSEUM.

36th Street, between Park and Madison Avenues, New York.

McKim, Mead & White, Architects.



THE BRONZE ENTRANCE DOORS—THE MORGAN LIBRARY AND ART MUSEUM.
36th Street, between Park and Madison Avenues, New York. McKim, Mead & White, Architects.



ADDITION TO THE WINDSOR HOTEL.

Montreal, Canada.

H. J. Hardenbergh, Architect.

NOTES & COMMENTS

THE CALIFORNIA BUNGALOW

The more one becomes familiar with the buildings which have been erected in California of late years, the more one comes to appreciate the architectural value for its own purpose of the California bungalow.

It is not too much to say that these bungalows are on the whole the best type of cheap frame house which has been erected in large numbers in this country since the old New England farmhouse went out of fashion. It is, as a rule, a long, low, one or two-story building, with a conspicuous roof, overhanging eaves and an inclosed porch. It fits snugly on the ground, it is generally well scaled with the surrounding shrubbery and trees, and its lines and the distribution of its openings are for the most part agreeable to the eye. The outer shell is usually covered either with shingles of the same size as those used in the East or with the larger shingles which Californians call "shakes"; but the redwood shingles and shakes used on the coast have a pleasanter and warmer coloring than cedar shingles, whether stained or not. Sometimes clap-boarding is used, and often with considerable success; the wide spacing of the clap-boards which one sees and likes on the old California ranch houses has been frequently transferred to the modern bungalows. There is nothing either affected or insincere about these little houses. They are neither consciously artistic nor consciously rustic. They are the simple and unconscious expression of the needs of their owners, and as such they can be credited with the best kind of architectural propriety.

Nothing, indeed, could be more flimsy than their method of construction. Their owners rarely indulge in the luxury of a foundation, and when a foundation is provided the stones are as often as not laid directly upon the grass. Generally, however, it is the sills, and not the stones, which are placed with mathematical precision on the turf, and throughout the structure the timbers are made as light as possible for a one or two-story building. Higher than two stories they do not soar. Whether or not a bungalow is plastered on the inside will depend upon the

purpose for which the particular house is used. If it is situated in a suburb and is the permanent residence of its owner, it will generally be plastered; whereas, if it is situated in the country and is only occasionally occupied, a sheathing of redwood is usually considered sufficient. On the whole, these little houses often look light enough to be blown away and fragile enough to be demolished by a few stout blows of a club; but it must be remembered that such flimsy methods of construction have the practical merit of being very cheap. A California bungalow will cost anywhere from a few hundred to a few thousand dollars, and there is no economic reason why any California family, save those who are actually poverty-stricken, should not be able to own some kind of good-looking little "shack."

The cheapness of these houses is, of course, the direct result of their flimsiness of construction, and both are conditioned on the mildness and for the greater part of the year the dryness of the California climate. In the East even the cheapest house, except when it is occupied only for a couple of months in the summer time, requires a cellar and a comparatively substantial foundation, and as this foundation is one of the chief sources of expense, the tendency is to make it cover as small an area as possible and to build over it a comparatively high, square box of a house. The necessity also of providing a roof with a slope sharp enough to shed the snow readily tends to make our cheaper Eastern and Middle Western house a stiff, angular little building, which is rather perched upon the site than fitted tightly to it. One sees plenty of such houses in California, too, but they are not typical. When foundations and cellars are not indispensable, it is as cheap to build a low as it is to build a high house, and such houses in the dry California climate will have at least as long a life as the more substantially constructed houses in the East. It is customary also in California to dispense with much of the interior finish which in other parts of the country is considered necessary to the adornment of the house even of a mechanic. If the California bungalow is plastered, the millwork which is added is of the simplest

character, and generally follows the straight lines of the Mission furniture; while, if the house is not plastered, still cheaper and even better results are frequently obtained by the use of redwood sheathing. In short, the Californian has the advantage over the residents of many other parts of the country, both of happier climatic conditions and of a less sophisticated architectural tradition.

With San Francisco and some of the other cities in mind, it may sound extravagant to say that Californians have any advantage of any kind in the way of an architectural tradition. Assuredly, the old wooden dwelling in San Francisco was the worst type of residence ever built in large numbers in any city in the world. It possessed, we believe, every known and conceivable architectural demerit, and the city in which these sinful disorders were committed can never be completely reformed save by a sort of architectural vigilance committee. But it must be remembered that the economic conditions which work in favor of country houses that are cheap and good have tended to produce city houses which are cheap and bad. California is only beginning to reach a condition of economic stability which prompts its inhabitants to undertake serious architectural and building enterprises. Under the rapidly fluctuating industrial conditions which prevailed for a longer time and to a greater degree in California than anywhere else in the country, the inhabitants of a large city like San Francisco were disadvantageously situated, compared to their neighbors in the country. Urban life was under such circumstances more than usually artificial. Life in the country was the real thing. Californians undoubtedly enjoy country life more thoroughly, more simply and more continuously than do the inhabitants of any other State in the American Union, and it is not strange, consequently, that their country houses unconsciously perpetuated some of the better elements in the traditional California method of building country houses.

For, of course, California started on its architectural career with a comparatively good tradition of domestic design. And by this good tradition we do not, of course, mean the forms which were embodied in the old Missions, which, for the most part, are not adapted to dwellings at all. We mean, in general, the tradition embodied in the old adobe buildings, with their long, low, pleasant lines, their overhanging eaves, their inclosed porches and their restful expanses of plastered wall. It was this sort of house which the early Californian constructed, and the tradition that this is a good kind of

house to build has fortunately never been stifled. The early American rancher would not, of course, use anything so expensive as plaster as long as lumber was cheap, but he usually followed the lines of the earlier California house, and his successor has continued to do much the same until the present day. Sometimes, indeed, one comes across the houses of richer ranchers, whose owners have been able to afford something architecturally striking, and who have consequently succeeded only in getting the same tedious, restless sort of frame house to which we are accustomed in the East; but fortunately such cases are rare. The Californian, when left to himself, does not know any better than to want something which happens to be good.

It is only recently that Californians have been building country houses for pleasure as well as for use. These pleasure houses, when they are expensive and designed by the better architects, do not differ essentially in their good and bad traits from the houses which are being erected under similar conditions elsewhere in the country. But the little bungalows of which we are speaking are rarely designed by architects at all. They are too inexpensive for that. They are the expression of what the ordinary Californian seems instinctively to like in the way of a house, and they are the sort of thing that the ordinary California country carpenter knows how to build. They are not the result of architectural instruction and selective taste; they are the result of a popular tradition which has not yet become sophisticated and which is aided by certain fortunate economic traditions. That Californians are building such a house in such a way is, we believe, a fortunate thing for them, because it means that these little bungalows are a genuine expression of popular and wholesome habits of country life and habits of country building, and the architects who design more costly and pretentious buildings, should do their best to reinforce rather than to destroy this tradition and practice.

A CONCRETE BUILDING

We present herewith the illustration of a building composed wholly of concrete, which is one of the most complete examples of this form of construction which has yet been erected. Cast cement stone has been used on the exterior, reinforced concrete for the interior columns, beams, stairways, floors and roof, and hollow concrete blocks for the partitions. It was built by



THE CONCRETE BUILDING OF THE ILLINOIS STEEL COMPANY.

Chicago, Ill.

the Illinois Steel Co. as an office building, and the basis material throughout has been universal Portland cement. It is impossible to imagine a more substantial form of construction than the one used in this building. There is every reason to suppose that it will last as long as the old Roman walls (provided, of course, the cement is equally good in quality), while at the same time this result has been obtained with a much smaller expenditure of material and labor. There can be no doubt that during the next generation this and similar forms of cement construction will become very popular, because a builder probably can, under all ordinary conditions, obtain this way an extraordinarily good result for his money. The difficulties which the advocates of concrete will have to overcome concern rather the architecture of these buildings than their construction. Concrete has so many good special qualities of its own that the designer of a concrete building should not try to produce effects which can be more perfectly obtained in stone; he should rather use forms expres-

sive of the more plastic and fluid nature of his material. American architects are becoming very much more idiomatic in the use of terra cotta than they used to be, and they must learn to design buildings in concrete which are intended to look as little as possible like stone instead of as much as possible like stone.

THE POTTER COLLECTION OF BRONZES

There is on exhibition at the Gorham Manufacturing Co.'s Fifth avenue show rooms a collection of bronzes entitled "The Soul of Alaska," by Mr. Louis Potter, a young American artist, who lived for some time among the Thlinket Indians. Mr. Potter has portrayed in a series of eighteen subjects the character and life of these people, who still cling strongly to their native traditions. The collection is especially interesting as marking a new departure in art.

It would seem a very commendable work, even apart from its artistic value, to pre-

serve for future generations a faithful record of the manners and customs of a people who must ultimately share the fate of other Indian tribes whose homes happened to be more in the path of civilization than theirs.

The Gorham company has got up an interesting booklet, giving a short history of the Thlinket Indians, their manners, customs and mythology, and a short biographical sketch of the artist. Some of the more important subjects are reproduced with descriptive allusions. The collection is artistically interesting, and would amply repay a visit.

LOS ANGELES ELECTRO- LIERS

The accompanying cut shows one of the ornamental electric light posts with which the principal business streets of Los Angeles are now lighted, and which are making the city famous. Relatively, it is an exceedingly costly light, not only in construction, but, far more seriously, in maintenance. In this respect it is less available than the handsome standard put on the market by a Hartford firm and lately described here; but it is extremely effective, and in its use of the incandescent light and in its frequent repetition it restores to the street some of that night beauty that belonged to the old gas lamp and that the garish electric light has driven away. The iron is bronzed, giving to the standard a rich effect. It was introduced first on Broadway, mainly through the energy and enterprise of one man—Frederick W. Blanchard, now the Secretary of the Municipal Art Commission. He was himself a large taxpayer, and succeeded in inducing the other property owners on the street, for its full business length, to constitute themselves the Broadway Boulevard Improvement Association. The design was made by W. Underwood, a local architect, and the prop-



erty owners paid for the standards precisely as they would pay for a new pavement or any other local improvement. After the success of the standards on Broadway, they were placed also on Spring street, a rival business thoroughfare next parallel. Now Main street, the second street beyond, is agitating the matter, and a number of men of large interests there have proposed the adoption of a distinct electrolier of their own that shall be in Mission style—heavy, squared supports, with cross-beams, from which the arcs shall be suspended like Mission bells. As Main and Spring streets finally unite, there has been opposition, on the ground of lack of harmony. This might have been more vigorously asserted, one would think, on the grounds of total inappropriateness and of already an overdoing of the "Mission style" for all kinds of incongruous purposes.

THE NEWEST THING IN SKY- SCRAPERS

Some of the new skyscrapers which have been recently projected in New York contain not only a comparatively novel idea, but also a considerable architectural promise. At least two large corporations, viz.: the Singer Sewing Machine Co. and the Metropolitan Life Insurance Co., propose to build exceptionally tall towers on parts of plots, the whole of which will be covered by office buildings of lower but still respectable height. It will, we believe, be appreciated at once that this innovation, while difficult of realization because of the necessarily large dimensions of the site of such a building, offers, nevertheless, certain manifest advantages, both architectural and practical; and it is worth while considering with some care just what these advantages may be.

In the first place, such a plan would have the great merit of securing to the offices situated in the tower a perpetual supply of excellent light. In the case of an ordinary skyscraper such a supply of light is, as is well known, frequently threatened. When the building is situated on a corner, the offices which front upon the two streets are usually well enough lighted, unless the street is very narrow and the buildings on the opposite sides of the streets are also very tall. But the offices which front on the two sides of the building which do not give upon the street are exposed, so far as their supply of light is concerned, to the possibility of all sorts of deductions, and these deductions are liable to be all the more serious when the building fronts upon only one street. Such

dangers were not so very conspicuous and pressing as long as buildings eighteen or more stories high were comparatively rare; but when they became as numerous as they are in the financial district in New York it frequently happened that the owners of existing skyscrapers were obliged to purchase at a large expense property adjoining their buildings in order to secure for their tenants a sufficient amount of light and air. At the time when such measures had to be taken it was freely predicted that the builders of skyscrapers were defeating their own purposes, and that thereafter the erection of such tall buildings would become economically undesirable. Such predictions have, however, been wholly falsified by the event. The buildings erected on expensive real estate, at least in New York, have a manifest tendency to become taller than ever, and the only difference which the new conditions make is that the owners of such buildings prepare in advance for a sufficiently large supply of sufficiently good light. The innovation mentioned above is one of the expedients which have been adopted partly for the purpose of securing this result. A tower twenty-five or thirty stories high, which is surrounded either by the open street or by a lower structure owned by the same company need not fear either the accidents of contiguous building or the intentionally malevolent plans of an abutting property owner. It has really reached the region of free and perpetual light, and the erection of many such towers would merely provide the inhabitants of these towers with good company in the upper air. Moreover, it is possible that the plan of such a building might work out very well. The tower would have to be supplied with a separate entrance hall and with express elevators which would not stop at any of the lower floors; while the offices situated on these lower floors could be served by the local elevators, which would be reached from a separate entrance.

The architectural possibilities of a skyscraper with a tower are equally obvious, and even more conspicuous. The tower would, of course, be a striking and a spectacular feature, the design of which in itself would offer a tempting opportunity, and in making such a design the architect would be emancipated from limitations which hamper him very much in the erection of ordinary skyscrapers. It has become, indeed, customary to give these buildings more or less the appearance of towers, but they are towers only on one, or, at most, two sides. It is considered the economical and respectable thing to pretend that a twenty-story building, no

matter how conspicuous it may be, is to be seen only on the sides which face the streets. The side and rear walls, which, in point of fact, may be as conspicuous as the street fronts, are left wholly undesigned, except that occasionally the bricks are laid so as to form a pattern, and the consequence is that the skyscraper becomes architecturally a mutilated thing. But in the case of these towers no pretence is possible that the rear and side walls will not be seen. They must be designed as if they had no baser parts; as if they were to be seen on every side and from every point of view. They must be designed—that is, as towers have always been designed—and it remains to be seen what American architects will make out of the problem. The design will have to be such as both to make the most of its towering dimensions and to harmonize with the appearance of those parts of the building which do not aspire to the upper air; but this complication of the problem, while it increases the difficulties, also improves the opportunity offered to the architect for obtaining a really great success.

We have called these towers architectural and practical innovations, and so they essentially are; but, of course, they have not been without certain precedents. The most obvious and conspicuous precedents are the towers of the Auditorium, in Chicago, or that of the Produce Exchange, in New York, while even the tower of the Madison Square Garden, in New York, cannot be wholly denied a similar dignity. Nevertheless, in both of these cases the relation of the tower to the building with which it is associated is so different from the relation of a twenty-five-story tower to a twelve-story building that we are justified in calling the proposed towers (comparatively) new things. The tower of the Metropolitan Life Insurance Company will, indeed, present much the same sort of problem as the Auditorium tower.

The New York structure and its proposed consummation will be higher by several stories than its analogue in Chicago, but the scales of the two towers in relation to the two buildings will have some things in common. In the case, however, of the new Singer Building the relation between the height of the proposed tower and the dimensions of the whole building, with its proposed extension, is wholly different. It suggests the relation which the tower of the Times Building bears to the whole structure of which it forms a part, rather than any similar architectural relation with which the writer is acquainted; but even this precedent cannot be pushed very far. The precedent

which has just been mentioned is sufficiently close, however, to justify one additional comment. The objections which may be taken to the design of the Times Building do not concern the appearance of the tower itself. That tower is admirably effective from any point of view along Seventh avenue or Broadway south of Forty-second street—from any point of view, that is, which enables one to see the tower as an isolated thing. When, however, this tower is seen in its relation to the rest of the building, its effect is by no means so good, and it looks as if the architect of the new Singer Building would have some difficulty in obtaining a much better relation between the mass of his building and the height of the tower. The general form which one would like to see these buildings take is that of a pyramid, and in case an architect had a whole block at his disposal it is possible that he might, with this general form in mind, achieve a beautiful and successful relation between his tower and the mass of his building. But such a design would involve obvious difficulties in the plan, which cannot be discussed in this connection. It is sufficient for the present to point out that the plan of skyscrapers under the conditions which are coming to prevail in New York is assuming certain new phases, and that these recent developments should offer the architect certain problems which are charged both with difficulties and opportunities.

**EXHIBITION
BY THE
WASHINGTON
ARCHITECTURAL CLUB**

The Washington Architectural Club held its sixth annual exhibition in the atrium of the Corecoran Gallery of Art from March 17 to April 2. It included designs for such notable public works as the United States Senate and House business buildings, which are being erected to the north and south of the Capitol, after plans made under the advisement of Carrère & Hastings; the New York and Baltimore custom houses, standing, respectively, to the credit of Cass Gilbert and Hornblower & Marshall; and of postoffices in Los Angeles and Fresno, Cal., constructed under the supervision of Mr. James Knox Taylor; but it placed chief emphasis on Washington's domestic architecture. Thirty-one pages of its catalogue were given over to reproductions of notable residences built within the past few years, and though the representation was, in comparison to the field, small, it was sufficiently well chosen to be regarded as typical and significant. Such interesting examples as the Patter-

son house, on Dupont Circle, designed by McKim, Mead & White; the Larz Anderson residence, on Massachusetts avenue, the work of Little & Brown, and the Townsend mansion, remodeled by Carrère & Hastings, were given, and the more modest were groups of works by the leading local architects were also represented. Washington is fast becoming the residence city of America, and in the line of domestic works its local architects have made their largest contribution. The layout of the Federal City, combining the gridiron and the radial street systems, has lent itself kindly to innovations; its building lots are irregular in shape and size and its building sites commonly unconventional. There is still space and to spare, and though in certain sections land is high, it is not, even to the moderately wealthy, prohibitive in price. Then, too, Washington conserves to itself both urban and suburban features; it is at one and the same time city and country. Drifting nonchalantly from one to the other, the boundary line is never positively fixed. But, furthermore, the personnel of its residents calls forth, if it does not require, variety in the design of its homes. Being a national center, its citizens have been drawn from the world at large, and have come from every section of the United States, as well as from abroad, bringing with them alien ideals. These have been grafted, as it were, upon the good old Colonial style so well interpreted by Thornton, Latrobe and Hoban in the early days of the Republic—and have brought forth a fruitage which is both original and worthy. Messrs. Marsh and Peter have accomplished much in their revival of the Colonial style in its archaeological simplicity and purity, and in their re-adaptation of it to the requirements of the time; Wyeth and Cresson, it may be noted, have made and carried to a satisfactory conclusion designs for residences in accordance with the tenets of the modern French school; while Wood, Donn and Deming are shown to have introduced felicitously the Mission style, and developed both the pictorial and livable factors; and Totten and Rogers have interpreted with pleasing effect the Italian Gothic. These are but a few of the firms represented, and merely a summary of their contributions, but their marked individuality indicates the diversity of the output and the character of their works the trend of the whole. Individually, the houses represent not only their architects, but their owners. Collectively, they stand for the city, and for future possibilities along these lines.

L. M.

Paint Progress

The conscientious architect owes it to himself no less than to his patrons that he should understand the subject of paint at least superficially. To go to the bottom of the subject is scarcely possible, since technical experts as yet agree on very few points connected with it. They are practically agreed, however, in condemning precisely the practice still adhered to by the majority of architects. What this practice is everyone who is familiar with current specifications understands: two or three coats of lead and oil tinted to the desired color, the actual preparation of the paint being left largely to the discretion of the contracting painter.

Now the long series of exhaustive experiments conducted by the Pennsylvania Railroad, under the supervision of Dr. Dudley, have proved as conclusively as any fact can be proved, that pure pigments of the basic type do not make satisfactory paint; while Mr. Job, Chief Chemist of the Reading Railway, has also clearly demonstrated the fact that fine grinding of pigments and intimate incorporation of the various ingredients of a paint determine to a large degree its durability.

These two controlling factors—fine grinding and intimate union—are precisely the two conditions necessarily wanting in a hand-mixed paint. The only form of paint in which they are pre-eminent is a properly made ready-mixed paint.

On the face of the matter, no one would deny that this is the only logical form of paint. Given the same formula, there is no intelligent user of paint that would not prefer to leave the entire pro-

cess of selecting, grinding and mixing of components to be done, under proper supervision, by a well equipped paint factory than to run the risk of accidental or intentional adulteration and necessarily imperfect combination in the paint shop. It resolves itself, then, into a question of the materials used in either case.

But, it has been pointed out, materials used in ordinary practice for contract work are not by any means the best available. While lead is a very useful ingredient in certain types of paint, it is not the only desirable ingredient. Both technology and paint manufacturing progress have left this antiquated practice far behind, except in architectural specifications.

Few large railway companies, agricultural implement makers or structural steel builders of the present day in any case tolerate a straight mixture of lead and oil in their work. Such specifications, where white or a tint is required, uniformly prescribe the addition of zinc oxide or other white pigment and some inert material to the white base.

The manufacturers of ready mixed paints have followed far more closely than either the average painter or the average architect the progress of technical development in these lines, and while it is true that by no means all ready mixed paints reach or are intended to reach the desired standard, yet, as a matter of fact, the average prepared paint put out by a reputable manufacturer, if fairly handled by the painter, will afford more permanent decoration and protection at a lower cost than the routine shop-mixed lead and oil.

H. B. G.



GRAND ENTRANCE HALL, PALAST HOTEL.

Berlin, Germany.